Understanding the Influences on Undergraduate Athletic Training Students' Perceived Cultural Competence

By

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Abstract

There is a distinct relationship between the diversity of healthcare providers and the general population in regards to the quality of healthcare provided. Many have suggested that to increase the quality of healthcare provided to all patients, the optimal goal should be to increase the diversity of the practitioner population to match the general population. In addition to increasing diversity, cultural competence, or the ability to provide culturally appropriate care to individuals from different race/ethnicities and cultures, has become a point of emphasis to educate all practitioners, minority or not, to provide quality healthcare to all patients. This study focused on a small sector of healthcare, athletic training, and sought to determine athletic training students' level of cultural competence and what individual, programmatic, and institutional factors influenced this level of cultural competence.

This study utilized three sources to collect data on cultural competence and the different areas of characteristics. A student survey determined the level of cultural competence, individual characteristics, and information on academic and institutional climate. A program director survey was utilized for programmatic characteristics and IPEDS data was utilized for institutional characteristics. Statistical analyses included; means and standard deviations for the demographic data, a correlation analysis to determine relationships between variables, and a block-wise regression to determine the characteristics that influence a student's level of cultural competence.

Four hundred and twenty two students and 62 programs directors from 62 CAATE accredited athletic training education programs participated in the study. Athletic training students were found to be culturally aware but not culturally competent or culturally proficient. They identified the importance of race/ethnicity and the implications of culture in healthcare, but

lacked the ability to take action and provide culturally competent care. Five characteristics were found to predict a student's level of cultural competence. Individually, only a student's race ethnicity influenced cultural competence, with white students having a lower level of cultural competence. No programmatic variables were found to be significant predictors. Only one academic climate variable, working with a highly diverse population, was found to have a significant influence on cultural competence. Students who perceived that they had worked with a highly diversified population were more likely to have higher levels of cultural competence. Two institutional characteristics, control and Carnegie classification, were linked to cultural competence. Students who attended private institutions were more likely to have higher levels of cultural competence than those attending public institutions. In addition, students who attended doctoral institutions were more likely to have higher levels of cultural competence than those attending masters or bachelors institutions. The final characteristic from the institutional climate block, student perception that the institution values diversity, was also found to be a positive influence on cultural competence. In conclusion, athletic training students are not culturally competent and academic programs should utilize the five different areas of influence to best prepare students to work with a diverse patient population.

Acknowledgements

The completion of this project would not have been possible without the assistance of many individuals. I would first like to thank my chair Dr. Susan Twombly for all of her patience and assistance throughout this process and the rest of my committee, Dr. Lisa Wolf-Wendel, Dr. Dongbin Kim, Dr. David Carr, and Dr. Phill Vardiman for all of their valuable input and guidance. My journey to this point began with my undergraduate degree in athletic training, so I would like to thank Sara Brown and Mark Laursen for their guidance in entering the field and their continued encouragement throughout this journey through jobs and educational opportunities.

To my friends, I could not have done this without you. Thank you for listening and encouraging me every time I questioned if this was possible. I value each and every one of your friendships and feel so lucky to have each of you in my life.

To my mom, dad, and brother, without you I would have never been able to achieve all of my goals. Thank you for understanding the stresses and supporting me through all of the choices I have made. Mom and Dad, thank you always giving me the confidence that I could be successful at anything I put my mind to and Ian thank you for always giving me different perspectives on life and school. I love each of you and I hope you know that this is as much yours as it is mine.

Thank you again to all of you,

Jennifer L. Volberding

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

CHAPTER I: INTRODUCTION

Every day in the newspaper and on television, there are many stories related to the topic of the status of healthcare in America. These stories focus on a wide variety of issues, everything from the insurance industry, the overall health of the population, and the overall status of the healthcare in the United States. One area where there are significant issues and discussions is day-to-day patient care (Ralston, 2003). Many factors affect overall patient care, but two major influences are the lack of diversity among healthcare providers and the inability of all providers to provide culturally appropriate care. The lack of diversity directly relates to the gap in healthcare available to those individuals who are racial and ethnic minorities as well as those individuals in other underserved populations (Cohen, Gabriel, & Terrell, 2002; Ralston, 2003). Research has demonstrated that it is essential to the overall health of the population to identify where diversity is lacking and to find methods of increasing it in the medical fields (Baldwin, Woods & Simmons, 2005; Cohen, Gabriel, & Terrell, 2002).

Unfortunately, increasing the number of health care providers from underrepresented groups is a long and difficult challenge, so in addition to increasing diversity in healthcare, there has been a significant emphasis placed upon educating all healthcare practitioners to provide the most appropriate care to a highly diversified population. This ability to work with a diversified patient population is known as cultural competence. Cultural competence is an on-going process where individuals gain knowledge, experience, and comfort in dealing with patients that are different from themselves (Brach & Fraseririchter, 2001; Briggance & Burke, 2002; Cartwright & Revis Shingles, 2011; Kai et al, 2007; Krainovich-Miller et al, 2008; Mixer, 2008; Pacquiao, 2007; Shaya & Gbarayor, 2006; Waite & Calamaro, 2010; Wilson, Sanner, & McAllister, 2010). While cultural competence can be found in all areas of healthcare, this study looks at a small

sector within the healthcare system, Athletic Training. It will investigate the issues related to educating students enrolled in Athletic Training Education Programs (ATEPs) in cultural competence so students are able to work within a racially, ethnically, and culturally diverse population. Prior to the discussion of cultural competence, the case for diversity and understanding diversity will be addressed.

The National Athletic Trainers Association or NATA (2010) states that, "Athletic Trainers are healthcare professionals who collaborate with physicians to optimize patient and client activity, and participation in athletics, work and life" (p. 7). The profession has been broken down into five specific domains: injury/illness prevention, clinical evaluation and diagnosis, immediate and emergency care, treatment and rehabilitation, and organization and professional health and well-being (NATA, 2010). Athletic trainers work in a wide variety of settings to optimize patient participation in athletics, work, and life. Settings may include colleges and universities, professional sports, high schools, clinics, the military, and industry (NATA, 2010). These settings provide a variety of different patient-provider interactions. Athletic Trainers (ATs) in the clinical setting function similarly to Physical Therapists and Physicians, while ATs in college/professional settings are "assigned" to provide care for one team/group.

The profession of Athletic Training is one in which diversity of practitioners is lacking but in which the patient pool comprises an extremely diverse population. Specific areas, such as colleges and universities and professional sports, for example have higher percentages of minority patients than in the general population (NATA, 2010). The National Athletic Trainers Association (NATA) in 2002 stated that less than 10% of its population of practitioners was from racially and ethnically diverse backgrounds (Geisler, 2003). In addition to the low number of

minority practitioners, close to 50% of the NATA members practice in the three settings where there are high minority populations (Geisler, 2003; NATA, 2010). Perrin (2000), states that minority representation in athletic training, especially of African American, should increase due to the high percentage of minority athletes in the population with whom athletic trainers work. This increase in minority practitioners must come by increasing the number of minority students enrolled in the Commission on Accreditation of Athletic Training Education (CAATE) programs. In 2001, 12% of the student population of Athletic Training Education Programs (ATEPs) and 27% of the NATA membership was ethnically and racially diverse (Geisler, 2003; Nevarez, Hibbler, & Cleary, 2002). In his editor's note in the Journal of Athletic Training, Perrin states that attaining practitioner diversity should be one the foremost priorities for the NATA to achieve (Perrin, 2000).

Physicians and nurses are the most commonly studied health care professionals. However, healthcare is much broader than just services offered by nurses and physicians. Although diversity of practitioners is an issue throughout the various fields that comprise healthcare, the focus of this study is on Athletic Training. Many have studied the relationship between diversity and healthcare as it relates to physicians and their assistants, but there hasn't been a significant amount of research done on the minority population specifically within Athletic Training (Price, et al, 2005). Due to this, much of the discussion on why diversity in healthcare is essential is focused on these larger fields of healthcare.

Diversity (and cultural competence) among healthcare providers is essential. The American Heritage College Dictionary (1997) defines diversity as "variety and multiformity in a population" (p. 405). Within healthcare, diversity is described as the differences among people including race/ethnicity and culture (Yearwood, Brown, & Karlik, 2002). Meeting the health

needs of diverse populations is a concern for practitioners and patients alike. Reasons for this need revolve around the type of care being delivered, who is delivering the care, and the patients being cared for.

Researchers have suggested that there are four main reasons to increase diversity among healthcare practitioners. The four reasons are improved cultural competence, increased access to services for minority and low-income patients, the building of a stronger research agenda that focuses on minority health issues, and better overall management of the healthcare system (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Moskowitz, 1994; The Diversity Research Forum, 2005). Cultural competence will be discussed first. Shaya and Gbarayor (2006) state that cultural competence is the ability of both a practitioner and a facility to navigate the different perspectives of patients brought on by differences in race, ethnicity, language, religious beliefs, and behaviors. Campinha-Bacote (2007) defines cultural competence in her Model of Cultural Competence in the Delivery of Healthcare Services as "an ongoing process in which a healthcare professional continually strives to achieve the ability and availability to work effectively within the cultural context of the patient (individual, family, and community)" (p. 5). The first two goals of increased diversity in healthcare, cultural competence and increased access for minority and low-income patients can be understood by discussing social inequality (Cohen, Gabriel, & Terrell, 2002; Libby, Zhou & Kindig, 1997).

Social inequality is found in all aspects of life, from education to the workforce, to healthcare (Herrnstein & Murray, 1994; Smith, 2009). Social inequality occurs when individuals from different social, political, economic, and racial groups are discriminated against (Major, 1994). It can lead to all types of societal deficiencies, especially in healthcare (Bruner, et al, 2007).

The concept of social inequity in healthcare revolves around two main ideas. The first idea is that individuals of low socioeconomic status, as well as individuals who are racial and ethnic minorities, receive a lower level of healthcare than the rest of the population (Cohen, Gabriel, & Terrell, 2002; Ralston, 2003). This lower level of healthcare is not only the physical care being given, but also the multicultural care being provided (Briggance & Burke, 2002; Cohen, Gabriel, & Terrell, 2002; Kai, et al, 2007; Ralston, 2003; Shaya & Gbarayor, 2006; Wilson, Sanner, & McAllister, 2010). Multicultural care relates to the ability of the healthcare provider to understand the social influences on a patient's health and how care must be administered with these influences in mind (Briggance & Burke, 2002; Cohen, Gabriel, & Terrell, 2002; Kai, et al, 2007; Ralston, 2003; Shaya & Gbarayor, 2006; Wilson, Sanner, & McAllister, 2010). Studies have demonstrated that the main reason that there is a decreased amount and quality of healthcare provided to minority patients is related to the limited number of minority practitioners (Cohen, Gabriel, & Terrell, 2002; Libby, Zhou & Kindig, 1997; Ralston, 2003). Research also suggests that in general minority practitioners make up less than 10% of the medical and allied health populations (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Geisler, 2003;Wilcox & Weber, 2005). Few minority practitioners provide healthcare to 30% of the racial and ethnic minorities (Cohen, Gabriel, & Terrell, 2002; Libby, Zhou & Kindig, 1997).

The lack of diversity among healthcare providers influences the choice minority patients make when choosing a healthcare provider, which may lead to deficiencies in care. Studies have demonstrated that there is a strong association between the race/ethnicity of the patient and the healthcare provider (Cohen, Gabriel, & Terrell, 2002; Libby, Zhou & Kindig, 1997). The argument is made that minorities, especially those from a low socioeconomic status (SES) background, tend to only want to see health care providers of the same race/ethnicity (Gabard,

2007; Moskowitz, 1994; The Diversity Research Forum, 2005; Waite & Calamaro, 2010). Expanding upon this idea, with less than 10% of the healthcare population being a racial or ethnic minority, patients have a limited pool of healthcare providers to choose from. In fact, many times when minority patients cannot find a minority healthcare provider, they will instead choose not to seek out healthcare (Briggance & Burke, 2002; Cohen, Gabriel, & Terrell, 2002; Libby, Zhou & Kindig, 1997). This preference of an ethnically similar provider can be found in all aspects of healthcare including athletic training in the clinical setting (Briggance & Burke, 2002). The level of healthcare being provided to minority patients as well as the limited number of providers that they seek out due to racial or ethnic identification work together to lead to decreased access to care and overall social inequity.

The third case for diversity in healthcare is the need for a more diverse research agenda. In general, research agendas are influenced by the individuals performing the research (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Moskowitz, 1994; The Diversity Research Forum, 2005). If there are fewer minority students graduating from healthcare programs, there will be a limited number of minority researchers, which will lead to only a small population performing research on issues and conditions related to minority patients (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Moskowitz, 1994; The Diversity Research Forum, 2005). The Diversity Research Forum (2005), states that by increasing the diversity of the medical researchers, minority issues may be more fully researched and in turn, minority patients may receive better healthcare. In addition to the increase in the number of minority researchers, research agendas need to modify their focus to include the different types of influences race and ethnicity have on care (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Moskowitz, 1994; The Diversity Research Forum, 2005).

The final case for increasing diversity within healthcare providers focuses on the improvement of healthcare in general. Increasing diversity will allow for overall better healthcare management (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Moskowitz, 1994; Price et al, 2005; The Diversity Research Forum, 2005; Waite & Calamaro, 2010). By having more minorities within the ranks of administrators, the quality of care will again increase for minority patients and in turn can decrease social inequality (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Moskowitz, 1994; The Diversity Research Forum, 2005). Increasing diversity among the population of healthcare practitioners will improve the healthcare being provided to the entire population, especially the care of underserved populations. With the case for diversity in healthcare identified, it is now important to understand the history of diversity in healthcare and to recognize its current status.

The case for diversity in medicine began in 1970 when the Association of American Medical Colleges (AAMC) set a goal to have blacks represent 12 percent of total medical school entrants, equal to the black population at the time (Cohen, Gabriel & Terrell, 2002; Libby, Zhou, & Kindig, 1997; Moskowitz, 1994). In 1990, blacks still represented less than six percent of these students and due to this lack of progress in diversity, the AAMC launched Project 3000 by 2000 (Moskowitz, 1994). The goal of this project was to have 3000 under-represented minorities enrolled in medical colleges by 2000 (Moskowitz, 1994). The AAMC used the percentages of black physicians as a gauge for all minorities, so when creating the Project 3000 by 2000, all minorities were included (Moskowitz, 1994).

Taking the lead from the AAMC, researchers in Allied Health have begun to look at the racial and ethnic diversity of their healthcare practitioners. Baldwin, Woods, and Copeland Simmons (2004) state that while blacks and Hispanics make up 25% of the United States

population, they make up less than ten percent of the students enrolled in allied health profession education programs. According to the 2000 Census, blacks make up 3.5% and Hispanics make up 3.9% of all practicing Physical therapists (Gabard, 2007). In 2003, Blacks were 4.1% and Hispanics were 3.7% of the graduates of physical therapy programs, while the projected overall population in 2020 is 13.5% Black and 17.8% Hispanic (Gabard, 2007; Wilcox & Weber, 2005). In fact, studies have demonstrated that the typical applicant to a physical therapy program is a white female (Wilcox & Weber, 2005). In the field of athletic training, increasing diversity continues to be a concern. The National Athletic Trainers Association (NATA) in 2002 stated that less than 10% of its population is racially and ethnically diverse, with close to 50% of the NATA members practicing in the three settings where there are high minority populations (Cartwright & Revis Shingles, 2011; Geisler, 2003; NATA, 2010). In 2001, 12% of the student population of Athletic Training Education Programs (ATEPs) was ethnically and racially diverse (Geisler, 2003; Nevarez, Hibbler, & Cleary, 2002).

Researchers have made recommendations as to how to increase diversity in medicine. The general consensus is that there must be a focus on increasing the number of minority students in the academic programs of these professions (Gabard, 2007; Nevarez, Hibbler, & Cleary, 2002; Libby, Zhou & Kindig, 1997; Perrin, 2000; Wilcox, & Weber, 2005). The AAMC's Project 3000 by 2000 has seen moderate success and should be a model for other education programs (Cohen, Gabriel, & Terrell, 2002; Moskowitz, 1994). Other suggestions have included: active recruitment of minority students, career counseling at both the high school and collegiate level, advertising, fostering relationships with local high schools and medical facilities, hiring a diverse faculty, fostering alumni relationships, and preparatory programs for

minority students (Baldwin, Woods, & Copeland-Simmons, 2004; Gabard, 2007; Perrin, 2000; The Diversity Research Forum, 2005).

While the main recommendation to increase the quality of healthcare provided for patients who are of a racial or ethnic minority has been to increase the diversity of the population of healthcare providers, this is a challenge that takes considerable time. Many have questioned what can be done in the interim to educate current practitioners as well as the non-minority students currently in educational programs (Cartwright & Revis-Shingles, 2011; Mihalic, et al, 2009). The answer has been to incorporate a cultural competence component into healthcare curricula to ensure that providers, regardless of race/ethnicity, are sensitive to and well-versed in the cultural issues associated with caring for individuals from underrepresented groups (Cartwright & Revis-Shingles, 2011; Cohen, Gabriel, & Terrell, 2002). Researchers have provided many different variations to the definition of cultural competence but all agree that it is an on-going process where individuals gain knowledge, experience, and comfort in dealing with patients that are different from themselves (Brach & Fraseririchter, 2001; Briggance & Burke, 2002; Cartwright & Revis Shingles, 2011; Kai et al, 2007; Krainovich-Miller et al, 2008; Mixer, 2008; Pacquiao, 2007; Shaya & Gbarayor, 2006; Waite & Calamaro, 2010; Wilson, Sanner, & McAllister, 2010).

Currently, the majority of research on cultural competence is being performed on physicians and nurses (Price, et al, 2005). Results of these studies have provided interesting information on current perceptions of cultural competence. Overall, nurses and physicians do not feel that they are adequately prepared to provide culturally competent care and they lack specific knowledge (Kai et al, 2007; Waite & Calamaro, 2010). This leads to anxiety and uneasiness when providing care, which will decrease the quality of care being provided (Kai et

al, 2007; Mixer, 2008; The Diversity Research Forum, 2005). Pacquiao (2007) researched the differences between patient and practitioner perceptions of cultural competence and found that patients emphasize a need for providers to have an understanding of beliefs and language while providers emphasized knowledge and cultural sensitivity. When looking at specific perceptions of cultural competence, non-white students and practitioners rate themselves higher than white students due to the discussions and experiences they have had throughout their entire lives (Fitzgerald, Cronin, Campinha-Bacote, 2010). This is to be expected as these individuals have experienced the difficulties non-white patients come across while trying to attain quality healthcare. Fitzgerald and her colleagues (2010) discussed their concern with these perceptions of higher levels of cultural competence. They felt that the students' self-scoring may inflate the findings due to the fact that individuals may understand the issues that arise from their own race, ethnicity, or culture, but lack the understanding of issues associated with other race/ethnicities.

Within the field of Athletic Training, there has been minimal research performed on cultural competence in the field or in the classroom (Price et al, 2005). Geisler (2003), states that Athletic Trainers need to be able to deal with all patients within a global context from both technical and social aspects. With the majority of Athletic Trainers being white and working with a high minority population, it is essential to find ways to educate students in a culturally competent manner to allow them to feel comfortable working with individuals of all backgrounds.

This study sought to understand the perceived level of cultural competence of Athletic Training Students (ATS). Cultural competence can be influenced by factors from three specific areas (Campinha-Bacote, 2007; Cartwright & Revis Shingles, 2011; Waite & Calamaro, 2010; Wilson, Sanner, & McAllister, 2010). These three areas, individual, program, and institutional,

each affect characteristics that may directly influence an individual's perceived level of cultural competence. Individual characteristics include race/ethnicity and personal experiences. Program-specific characteristics include the racial/ethnic diversity of the program, program and classroom climate, modeling behaviors of faculty, methods of implementation, and clinical instructors, and the research agendas of faculty including cultural research. Finally, institutional characteristics include institution type, 2005 Carnegie classification, and climate. It is important to understand how these three areas of characteristics influence a student's perceived level of cultural competence so that programs can determine if students are prepared to provide culturally competent care to their patient population.

Research Questions

This study utilized a quantitative approach. Initially, student perception of cultural competence was measured. This was followed by an investigation into the individual, programmatic, and institutional characteristics that influence this perceived level of cultural competence. The research questions are as follows:

What is the level of cultural competence among athletic training students?

What individual, programmatic, and institutional factors influence athletic training students' perceptions of their cultural competence?

Conceptual Framework

For the purpose of this study, Campinha-Bacote's Model of Cultural Competence in the Delivery of Healthcare Service was utilized as the centerpiece for the conceptual framework. It was chosen because it best demonstrates the process by which a healthcare provider can gain cultural competence and provide quality care to individuals of all cultural backgrounds. The model is an ongoing process that breaks cultural competence down into five components

(Campinha-Bacote, 2002; Campinha-Bacote, 2007). These five components, cultural desire, cultural awareness, cultural knowledge, cultural skill, and cultural encounters, work together to allow for an individual to provide appropriate healthcare to all individuals (Campinha-Bacote, 2002; Campinha-Bacote, 2007). The five components of cultural competence, while they can be analyzed individually, function best when they work together. Each component has its own characteristics but to fully utilize the component, it must be linked with the other four.

According to Campinha-Bacote's (2002, 2007) model, cultural desire is an individual's motivation to understand the different influences culture has on an individual's health and the care that they receive. Cultural awareness is a self-reflective process where the healthcare provider looks at his or her own personal biases, stereotypes, prejudices, and assumptions (Campinha-Bacote, 2002; Campinha-Bacote, 2007). The third component, cultural knowledge, is the information and education an individual gains on the beliefs, data, and treatment efficiencies for different cultures (Campinha-Bacote, 2002; Campinha-Bacote, 2007). Cultural skill, or the ability to utilize cultural knowledge and practically apply it to patient care, is the fourth component of the model (Campinha-Bacote, 2002; Campinha-Bacote, 2007). The final component, cultural encounters, is where a practitioner is seeking out opportunities to work with diverse populations and applying the knowledge they have gained about culturally competent healthcare (Campinha-Bacote, 2002; Campinha-Bacote, 2007). If a healthcare provider can achieve success in all five components of the model, they will succeed in providing culturally competent care to individuals of all racial and ethnic backgrounds.

Campinha-Bacote also created a measurement tool to determine an individual's level of cultural competence. The IAPCC is a group of 20 statements that are directly related to the five content areas (Campinha-Bacote, 2007). Individuals are asked to rate on a scale of 1-4 their

agreement with each statement. These scores are then combined into a cumulative score. This cumulative score allows individuals to be labeled as culturally incompetent (20-40), culturally aware (41-59), culturally competent (60-74), or culturally proficient (75-80) (Campinha-Bacote, 2002).

Importance of the Study

Currently, cultural competence education is required by the Commission on Accreditation of Athletic Training Education (CAATE). The National Athletic Trainers Association (NATA) states that cultural competence is a foundational behavior of professional practice that should permeate the professional practice of all Athletic Trainers and Athletic Training Education Programs (NATA, 2011). The fifth edition of the Athletic Training Educational Competencies (2011, p.9) states ATEPs must demonstrate the instruction and assessment of the following:

- Demonstrate awareness of the impact that clients'/patients' cultural differences have on their attitudes and behaviors towards healthcare.
- Demonstrate knowledge, attitudes, behaviors, and skills necessary to achieve optimal health outcomes for diverse patient populations.
- Work respectfully and effectively with diverse populations and in a diverse work environment.

While cultural competence education is required for all programs, currently there is little to no research available that demonstrates the effectiveness of the current cultural competence education implementation in ATEPs and in turn, whether or not students are actually able to provide culturally competent care to patients. This study sought to determine the level of cultural competence of athletic training students as well as the individual, programmatic, and institutional characteristics that influence perceived level of cultural competence. This

information will identify those characteristics that can and cannot be modified by ATEPs, so as to provide recommendation for program directors on the implementation of cultural competence education.

CHAPTER II: REVIEW OF RELATED LITERATURE

The relationship between the race/ethnicity of patients and healthcare being provided is a major concern within the healthcare community (Gabard, 2007; Libby, Zhou & Kindig, 1997; Nevarez, Hibbler, & Cleary, 2002; Perrin, 2000; Wilcox, & Weber, 2005). While there has been an emphasis placed upon increasing the number of minority practitioners, there has also been an emphasis placed on educating all students and practitioners in cultural competence (Mihalic, et al, 2009). This study will seek to understand the overall concept of cultural competence and what influences athletic training students' perception of their ability to provide culturally competent care. While there are many influences on cultural competence, this study will investigate the effects of individual, programmatic, and institutional characteristics on students' perception of cultural competence. These three areas of characteristics were chosen because of their direct influence on students. Individual characteristics are innate to the student and are an integral piece of one's cultural competence. Individual characteristics include a student's race/ethnicity and personal experiences with individuals of different race/ethnicities. Programmatic characteristics were selected for this study because they are where ATEP program directors can directly influence students' cultural competence. Program-specific characteristics include the diversity within the program, program climate, classroom climate, the modeling of behaviors by faculty and clinical instructors, and the research interests of faculty. Finally, institutional characteristics were selected because they provide an additional population for students to learn from as well as providing an environment that may or may not encourage diversity. These characteristics will center on institution type and general educational experiences, specifically the factors influencing racial climate. A flow chart of how these

characteristics influence cultural competence can be found in Figure 2-1. Before investigating the different influences, the concept of cultural competence will be further discussed.

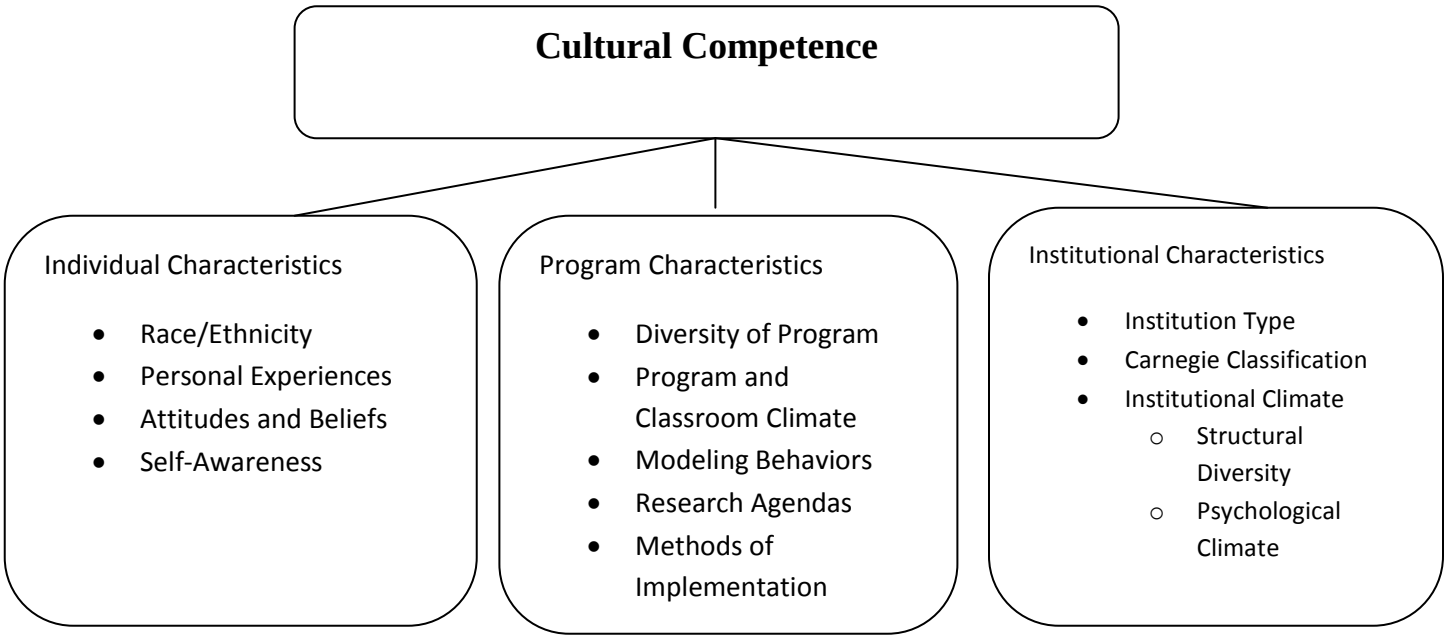

Figure 2-1: The Individual, Programmatic, and Institutional Influences on Cultural Competence

Conceptual Framework

Cultural Competence

There are currently four major models of cultural competence for healthcare providers found in the literature; the Purnell Model, the Geiger-Davidhizar model, the Wells Model, and Campinha-Bacote's model (Campinha-Bacote 2001; Campinha-Bacote, 2007; Lipson & Desantis, 2007; Purnell 2002; Smith, 2001; Wells, 2001). The model selected to guide this study is the Campinha-Bacote model. It was selected due to utilization of the principles found in the other three models in addition to breaking cultural competence into five distinct categories. The

Campinha-Bacote model will be discussed first followed by a brief description of the other three models.

The first model of cultural competence, and the one chosen as the guide for this study, is the Model of Cultural Competence in the Delivery of Healthcare Services. Josepha Campinha-Bacote's (2002; 2007) model represents an on-going process that begins with an individual becoming aware of the knowledge that they lack. This model states that there are five assumptions that must be made for it to properly work (Campinha-Bacote, 2002; Campinha-Bacote, 2007). The first assumption is that there are five components to cultural competence; cultural desire, cultural awareness, cultural knowledge, cultural skill, and cultural encounters (Caffrey et al, 2005; Campinha-Bacote, 2002; Campinha-Bacote, 2007; Fitzgerald, Cronin & Campinha-Bacote, 2010; Lipson & Desantis, 2007; Sargent, Sedlack, & Martsolf, 2005; Smith, 2001; Wilson, Sanner & McAllister, 2010). Each of these components will be addressed after a discussion on the four other assumptions. The second assumption is that cultural competence is a process (Campinha-Bacote, 2002; Campinha-Bacote, 2007). This is essential, as individuals must understand that while educational programs can provide quality information and experiences, it is up to the practitioner to continue to utilize this information in their daily practice as it will quickly disappear without use. The third assumption for this model is that there are more variations within ethnic groups than across ethnic groups (Campinha-Bacote, 2002; Campinha-Bacote, 2007). It is essential to learn the differences between groups, but it is equally or more important to learn the necessary subcultures within each group. An example of this may be that a practitioner needs to understand the differences in the influence of spirituality within Asian cultures. The fourth assumption is that there is a direct relationship between a practitioner's cultural competence and his or her ability to provide proper care (Campinha-

Bacote, 2002; Campinha-Bacote, 2007). The final assumption is that practitioners must understand that to provide the optimal care for any individual, minority or not, cultural competence is essential (Campinha-Bacote, 2002; Campinha-Bacote, 2007). Once individuals have "bought in" to the assumptions, they may then work on the five components of culturally competent care. Now that the assumptions of the model are understood, the components must now be discussed.

The five components of cultural competence, while they can be analyzed individually, work best when they work together (Figure 2-2). These five components are cultural desire, cultural awareness, cultural knowledge, cultural skill, and cultural encounters. Each component has its own characteristics but to fully utilize the component, it must be linked with the other four components within the Campinha-Bacote model. While they are linked together, growth in each of the five individual components can happen simultaneously.

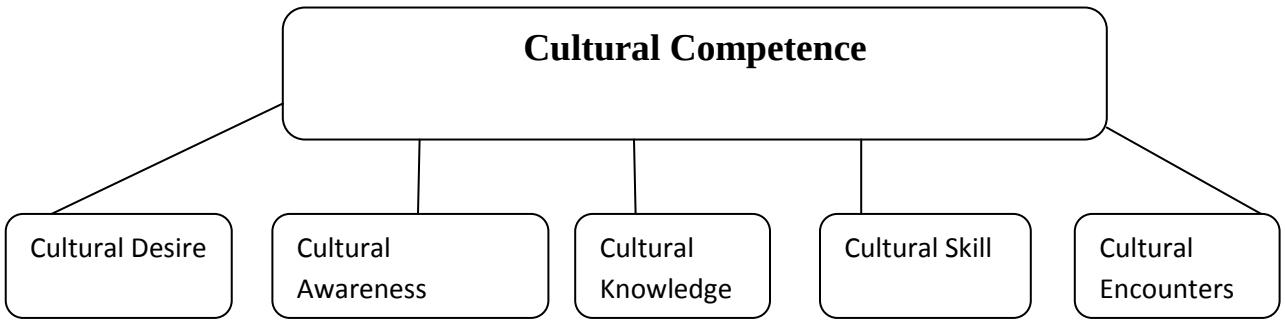

Figure 2-2: Campinha-Bacote's Model of Cultural Competence in the Delivery of Healthcare Services

The first component is cultural desire. Essentially, this is the motivation and desire of a healthcare practitioner to begin the process of cultural competences. Campinha-Bacote (2002;

2007) states that this is the individual who wants to rather than has to become culturally competent. This directly relates to the understanding that students will learn more when they are actively engaged and interested in a topic. While the teachers may have an influence on this motivation, in the end, it is up to the student/practitioner to find the internal desire to learn the skills necessary to provide the optimal culturally competent care. As students recognize this desire they are also becoming culturally aware.

Cultural awareness is the second component of Campinha-Bacote's model. It is a self-reflective process that encourages an individual to look at their own biases, stereotypes, prejudices and assumptions (Campinha-Bacote, 2002; Campinha-Bacote, 2007; Fitzgerald, Cronin & Campinha-Bacote, 2010; Rew et al, 2003; Sargent, Sedlack, & Martsolf, 2005). Wells (2000), states that this is the biggest barrier to cultural competence because the lack of awareness has a negative stereotype associated with it. People do not want to admit that they are unaware of the differences among individuals. It is also difficult because many times unless they are forced to reflect upon it, people are ignorant of their own inabilities. It is important to note that everyone, not just white healthcare practitioners, need to be aware of their own personal biases, stereotypes, prejudices, and assumptions. For example, a healthcare practitioner who is of a racial/ethnic minority may have never been put in a situation where they have to deal with a patient from the same overall ethnic group but a different subculture. If that individual is not aware of the differences, he or she would be just as guilty of not giving culturally competent care as a white practitioner who did not adequately address the needs of a member of a minority group. Individuals who are aware of their own personal limitations are more likely to become motivated, which is the first component of the model.

Once an individual has become aware of his or her own personal limitations and has become motivated to become culturally competent, he or she must gain cultural knowledge. This component revolves around the personal background of the individual seeking out the education and information (Campinha-Bacote, 2002; Campinha-Bacote, 2007; Fitzgerald, Cronin & Campinha-Bacote, 2010). This information fits into three different categories; beliefs, data, and treatment efficiency (Campinha-Bacote, 2002; Campinha-Bacote, 2007; Fitzgerald, Cronin & Campinha-Bacote, 2010). Seeking out data about cultures may include information about what race/ethnicities may be more susceptible to illness, the potential for high risk behaviors in certain cultures, and the nutritional deficiencies related to a culture (Purnell, 2002). Treatment efficacy is a step beyond the data collection stage. Healthcare practitioners need to understand that treatment efficacy may be different for different race/ethnicities due to the biocultural ecology or genetics (Purnell, 2002). It is essential that beliefs, data, and treatment efficacy be taken into consideration for optimal patient care. This is the knowledge that individuals must acquire to be adequately prepared to provide culturally competent care.

Coinciding with gaining the knowledge through education, an individual must also be able to obtain the appropriate medical history of the patient, which is the fourth component. Cultural skill is the ability to take a medical history that will be sensitive to an individual's culture as well as collect the essential cultural data (Campinha-Bacote, 2002; Campinha-Bacote, 2007; Fitzgerald, Cronin & Campinha-Bacote, 2010). A complete medical history is the cornerstone to any treatment plan, but this culturally sensitive medical history will guide the practitioner into creating a healthcare plan that incorporates both the medicine and culture. For most to acquire the skill necessary, they must have experience with a diverse population of individuals, or the final component, cultural encounters.

Healthcare practitioners, once they have gained the cultural knowledge of the third component and the desire from the first component, must seek out interactions with individuals from diverse populations (Campinha-Bacote, 2002; Campinha-Bacote, 2007; Fitzgerald, Cronin & Campinha-Bacote, 2010). This is the "use it or lose it" principle. An individual may have the highest level of education possible in regards to culturally competent care, but unless they are utilizing their knowledge and skills with a diverse population, they will lose their abilities. In this area practitioners are integrating knowledge into their behavior, applying it, and finally integrating it into their everyday practice (Wells, 2000). The more interactions a practitioner has, the more knowledge they will gain and the better they will become in implementing culturally competent care.

The second model of cultural competence that will be discussed is the Purnell model. It recommends that cultural objectives from 12 domains be included as cultural objectives within all classes instructing practitioners on areas where culture may influence an individual's perspective on healthcare (Cartwright & Revis-Shingles, 2011; Lipson & DeSantis, 2007; Purnell, 2002). The 12 domains are: overview/heritage, communication, family roles/organization, workforce issues, biocultural ecology, high risk behaviors, nutrition, pregnancy and childbirth practices, death rituals, spirituality, healthcare practices, and healthcare practitioners (Purnell, 2002). According to the model, overview/heritage is related to an individual's country of origin while communication is directly influenced by an individual's dominant language (Purnell, 2002). Family roles and organization is related to gender roles found within a culture, specifically, the head of household, social status, and cultural views of alternative lifestyles (Purnell, 2002). The area of workforce issues revolves around autonomy, gender roles, and healthcare practices while biocultural ecology is the variations within

race/ethnicity including skin color and genetic predispositions (Purnell, 2002). Purnell purports that some cultures may be associated with the use of tobacco, alcohol, and the lack of physical activity, all of which are placed in the high risk behavior domain which is directly associated with the nutritional practices of a culture found in the nutrition domain (Purnell, 2002). The two domains of pregnancy and childbirth practices and death rituals are focused on the views of life and death within a culture including the views towards pregnancy, the use of birth control, and the rituals and behaviors to prepare for death (Purnell, 2002). Spirituality is the eleventh domain and found within it are the religious views of a culture and individual (Purnell, 2002). The final domain is health care practice or the focus of health of a culture, the use of traditional medicine, and views towards mental illness (Purnell, 2002). Purnell (2002), states that the domains do not function as individuals, they all influence each other to create an individual's culture.

Surrounding the domains are four rings; the individual, the family, the community, and the global society (Cartwright & Revis-Shingles, 2011; Lipson & DeSantis, 2007; Purnell, 2002). These rings represent the four different perspectives of the relationship between culture and healthcare. When making healthcare choices, clinicians must be able to look at the patient's culture from all four viewpoints. Global perspectives are very different than the individual perspectives. Additionally, there is a direct link between the family and individual perspectives on culture and healthcare practitioners must be able to identify and work within both of these perspectives. Purnell (2002) states that by integrating these domains and objectives into all courses within a curriculum students will have maximal exposure to the cultural issues and will feel capable of providing culturally competent care.

The Giger-Davidhizar model is the third model. It states that culturally competent care is dependent on careful assessment and implementation of individualized care (Cartwright & Revis

Shingles, 2011; Lipson & DeSantis, 2007; Smith, 2001). Lipson and DeSantis (2007), state that according to this model culturally competent care is broken down into communication, space, social organization, time, environmental controls, and biological variations. Communication is the human interaction, verbal and non-verbal between a patient and practitioner while space includes an individual's comfort with proximity people and objects (Smith, 2001). Social organization is the individual's response to different situations that can be learned through role modeling or by socialization while the time variable is the cultural influence on an individual's perception of time (Drench, et al, 2012; Smith, 2001). The environmental control variable is an individual's ability to direct factors from an individual and cultural perspective (Drench, et al 2012; Smith, 2001). Finally, biological variations are the different physiological, nutritional, and physical differences between cultures (Smith, 2001). All six of these variables have a direct influence on the individualized care a practitioner should provide a patient.

A final model of cultural competence in the literature is the Wells Model. Wells (2000), breaks cultural competence into two phases; cognitive and affective. Individuals in the cognitive phase recognize that they are deficient in their understanding and seek to gain knowledge and awareness about cultures. This is similar to the Campinha-Bacote model where individuals must become self-aware of their own personal biases. These individuals start out with incompetence, gain knowledge, and then become culturally aware (Wells, 2000). According to Wells (2002), cultural incompetence is the lack of knowledge about the cultural implication of health and once an individual has recognized that they are culturally incompetence, they will seek out cultural knowledge to understand the different implications of culture on patient care. Once an individual has gained the knowledge, he or she then transitions to cultural awareness where he or she can recognize the implications of culture on an individual's health behaviors (Wells, 2000).

The second, affective, phase is where individuals use the knowledge and awareness gained in the first phase and put it into practice. Wells (2000), states that cultural sensitivity is the ability to integrate cultural knowledge into an individual's own personal behaviors while cultural competence is the routine application of cultural knowledge and awareness. The final step, cultural proficiency, is the integration of all of the prior steps into professional practice (Wells, 2000). The emphasis of this model is that cultural competence is a process and it begins with an individual recognizing that they are incompetent and unaware of the differences between individuals.

The Model of Cultural Competence in the Delivery of Healthcare Services as well as the other three models of cultural competence can be utilized within the field of athletic training. Athletic trainers in all different settings will be dealing with individuals from a variety of cultures. In the clinic setting, an athletic trainer might work with a patient who is from a culture where characteristics of the individual who is providing the care play a large role. An example of this may be a patient whose religious beliefs only allow for healthcare to be provided by an individual of the same gender. In the collegiate and professional sports setting, many times there are international athletes who are competing for teams in the United States. These athletic trainers may run into language barriers and other cultural issues that without cultural competence will drastically reduce the quality of healthcare provided to these patients.

Methods of Measuring Cultural Competence

Once cultural competence has been implemented in a curriculum, the effectiveness of the educational approaches used to teach it must be evaluated. Many researchers have stated that evaluating an individual's cultural competence is very difficult (Caffrey, et al, 2005; Fitzgerald,

Cronin & Campinha-Bacote, 2010; Rew et al, 2003). Currently, there are three main approaches to measure cultural competence. The three approaches, the Inventory for Assessing the Process of Cultural Competence (IAPCC), the Caffrey Cultural Competence in Healthcare Scale (CCCHS) and the Cultural Awareness Scale (CAS) will each be discussed. The IAPCC is a student survey of 20 questions that asks students to rate the extent to which they agree or disagree with a statement based on a combination of Campinha-Bacote's and Well's models (Fitzgerald, Cronin & Campinha-Bacote, 2010; Sargent, Sedlack, & Martsolf, 2005; Wilson, Sanner & McAllister, 2010). Questions are not broken down into subcategories, but instead work in conjunction to determine if a student is culturally competent. Scores are totaled (out of a total of 80 points) and participants are given a grade of culturally incompetent (20-40), culturally aware (41-59), culturally competent (60-74), and culturally proficient (75-80) (Sargent, Sedlack & Martsolf, 2005). This scale has been demonstrated to be the most valid and reliable (α=.783) method to measure student perceptions in the student version as well as within the current practitioner's version (Fitzgerald, Cronin & Campinha-Bacote, 2010; Kumas-Tan, et al, 2007).

The Caffrey Cultural Competence in Healthcare Scale (CCCHS) is a scale that was created by a nursing program director and her colleagues to determine the effectiveness of an immersion program on nursing student cultural competence. They based the questionnaire on their own program's benchmarks for cultural competency skills with groups of questions about student perceptions into seven areas; knowledge about healthcare beliefs and practices of other cultures, knowledge and comfort with cultural assessment processes, comfort with ability to work with others, knowledge about cultural practices, awareness of own limitations related to cultural competence, willingness to work with a diverse staff, and awareness of national policies that will allow for patient advocating (Caffrey et al, 2005). The CCCHS was shown to be a valid

and reliable measure of students' self-perceived knowledge, self-awareness, and comfort with skills of cultural competence (Caffrey et al, 2005).

The final method of evaluating cultural competence is through the Cultural Awareness Scale (CAS). The CAS is a group of 36 questions (rated on a scale of 1-7) that specifically look at general educational experience, awareness of attitudes, classroom and clinical instruction, research issues, and clinical practice (Krainovich-Miller et al, 2008; Kumas-Tan, et al, 2007; Rew et al, 2003). Questions are based on Campinha-Bacote's Model of Cultural Competence in the Delivery of Healthcare Services and analyze the influences of these individual areas (Rew et al, 2003). When studying the reliability and validity of this survey the internal consistency was found to be .91 for students and .82 for faculty, and the Cronbach's alpha coefficients for the five categories ranged from a .71-.94 (Krainovich-Miller et al, 2008; Rew et al, 2003). In all, the CAS has been found to be a valid and reliable way to measure student's cultural competence, but there are many assumptions to this model that may cause an inaccuracy in determining an individual's cultural competence (Kumas-Tan, et al, 2007). These inaccuracies are that it assumes that culture is a matter of race/ethnicity and cultural incompetence is practitioners' discriminatory attitudes towards others (Kumas-Tan, et al, 2007).

The previous three methods of evaluation discussed provide valid and reliable measures but take very distinctive approaches. The IAPCC utilizes a group of questions that work together to determine if an individual is culturally competent which is different than the CCCHS and CAS which break their questions down into subcategories of areas of interest. The IAPCC survey is also difficult to administer to a large participant pool as it is traditionally a paper and pen survey (Fitzgerald, Cronin & Campinha-Bacote, 2010). The CCCHS survey is closely related to one

nursing program's cultural competencies, so it isn't as transferrable to athletic training as the other two questionnaires. Overall, all three methods of evaluation provide researchers with valuable information on cultural competence, but due to its direct connection to the cultural competence model used for this study, the IAPPC was chosen.

As previously discussed, this study seeks to understand the influence of three different areas of influence on ATS perceptions of cultural competence. These three areas, their specific characteristics, and their possible influences will now be analyzed. Individual characteristics will be the first area to be discussed.

Individual Characteristics Influencing Cultural Competence

The first area of influence on a student's perception of cultural competence is his or her individual characteristics. Some characteristics are innate to the student and cannot be modified by the program or institution. Race/ethnicity and prior personal experiences cannot be changed however, the student perception of program climate, and student perception of campus climate may be modified. Other individual characteristics that may be influential on an individual's cultural competence are gender and socioeconomic status (SES) that cannot be modified, were controlled for in the analysis. Race/ethnicity and previous experiences work with programmatic and institutional characteristics to educate a student in cultural competence.

Race/Ethnicity

An individual's race/ethnicity has major implications for their basic knowledge of their own culture. In general, non-white students have higher levels of cultural competence (Fitzgerald, Cronin & Campinha-Bacote, 2010). Students from minority backgrounds may have

had more exposure and experiences with culture which in turn may lead to this higher understanding of diversity influences (Fitzgerald, Cronin & Campinha-Bacote, 2010). Minority students tend to openly engage in self-reflection about their own knowledge and experiences, which also leads to increased levels of cultural competence (Fitzgerald, Cronin & Campinha-Bacote, 2010). It is important to note that minority students may higher perceived levels of cultural competence; this perception may actually be inflated because they only have experiences within their own race/ethnicity versus a wide variety of ethnicities. Fitzgerald, Cronin, and Campinha-Bacote (2010) found that non-white students had these inflated perceptions when comparing them to their IAPCC measure. A student's race/ethnicity may be an individual characteristic that can lead to different perceptions of cultural competence when intertwined with other individual, program-specific, and institutional factors.

Personal Experiences

The second individual characteristic that works with race/ethnicity is an individual's own personal experiences. These personal experiences can come throughout a individual's lifetime, not only in an educational program. The more experiences an individual has with diversity throughout his or her life in the classroom, at work, and at home, the more likely they will have more cultural competence (Yearwood, Brown & Kralik, 2002). This previous history is identified through self-awareness and is demonstrated through an individual's attitudes and beliefs (Campinha-Bacote, 2007; Cartwright & Revis Shingles, 2011; Yearwood, Brown & Kralik, 2002). Minority students may have more experiences with discrimination or the lack of culturally competent care, which will allow them to be more sensitive to the needs of non-white patients. White students may have never experienced working with individuals of different

race/ethnicities or faced any discrimination in their life which leads to the lack of awareness of the implications a deficiency in of cultural knowledge may have.

Data on the individual characteristics was collected via the student survey. Students were asked their race/ethnicity as well as the controlled variables of gender and SES. A student's personal experiences were addressed specifically by asking a student on a scale of one to four the extent to which they agree with the statements of if they grew up in a predominately white neighborhood or attended a predominately white high school. While programs and institutions cannot change a student's race/ethnicity or previous experiences, it is essential that programs and institutions recognize the limitations set forth by race/ethnicity and previous experiences and utilize their own characteristics to influence perceptions of cultural competence.

Program Characteristics Influencing Cultural Competence

In addition to the individual characteristics there may be program-specific details that can influence perceptions of cultural competence. These program-specific details can include the diversity of the students and faculty, its general climate, the environmental climate in the classroom, modeling behaviors of the faculty and clinical instructors, research agendas, and the delivery of cultural competence instruction within the educational program. All of these programmatic characteristics will work together to have a major influence on a student's ability to learn and in turn their perceptions of cultural competence.

Program Diversity

The first program-specific characteristic that has an influence on a student's ability to gain cultural competence is the diversity of students within the program. The more diverse the

population, the more chances all students have to gain understanding of different perspectives (Antonio, et al, 2004; Astin, 1993; Campinha-Bacote, 2007; Hurtado, 2007; Mixer, 2008; Yearwood, Brown & Kralik, 2002). This increase in the understanding is not due to the numbers; it is due to increased interactions and more opportunities for students to have culturally sensitive discussions (Caffrey, et al, 2005). This positive benefit has been demonstrated in all students, although the benefits for white students have been shown to be less than for minority students (Mayhew, Grunwald & Dey, 2005). Program diversity in this study is measured by determining the percentage of non-white students enrolled in an ATEP. It has been demonstrated that programs are not currently diverse, so programs must utilize other characteristics to emphasize the importance of cultural competence in students.

Climate of Program and the Classroom

The next two program-specific characteristics work together to influence a student's perception of cultural competence. The climate of the program and the classroom, while they may seem independent, are actually directly related. A program may have a mission and commitment to increase diversity and to educate students in a culturally competent manner, but this mission is actually relayed in the classroom (Campinha-Bacote, 2007; Hurtado, 2007; Smith, 2009). Program directors must make sure that these goals are translated into the classroom and clinical settings.

LeCompte (1978), states that the socialization process students go through within the program and classroom provides the environmental climate or the "hidden curriculum". This "hidden curriculum" provides students the necessary social experiences to imitate the appropriate work-related values and behavior patterns of their peers and professionals (LeCompte, 1978; Self-Brown & Matthews, 2003; Silbergeld, Koenig, & Manderscheid, 1975; Silbergeld, Koenig,

& Manderscheid, 1976). Pascarella (1976) states that environmental climate does not just occur at an institutional level, it also occurs in individual academic units where there is a student subculture where students learn the values and behaviors associated with the program. In addition to the values and behaviors associated with programs, the environmental climate can be an essential in how all students, but especially minority students, are assimilated with their classmates, be it a positive or negative experience (Silbergeld, Koenig, & Manderscheid, 1975).

If the climate of the classroom/program is understanding and responsive to diversity, minority students easily adapt and join the group as opposed to situations where the climate is not understanding to diversity. This adjustment with the group allows for all students to easily learn different cultural perspectives from each other. The classroom climate has also been directly linked with student success. A positive classroom climate is essential for students to learn (Self-Brown & Mathews, 2003; Silbergeld, Koenig, & Manderscheid, 1975). Instructors can assist students in setting classroom and individual goals, where a positive environment has been linked to increasing amounts of achievement (Rojewski, et al, 1990; Self-Brown & Mathews, 2003).

When attempting to create this positive environmental climate in a program or classroom, there are a few things to take into consideration. It is essential that programs provide the optimal environment for gaining knowledge and values (LeCompte, 1978; Self-Brown & Mathews, 2003). The first step is to guide students to set achievable goals individually and as a group through quality leadership (Rojewski, et al, 1990; Self-Brown & Mathews, 2003). Through this goal setting, students should understand the goals as well as the structure essential to the environment. The next step is to encourage positive interactions between students because interactions are the keystone of a positive environment (Penick & Bronnsetter, 1993; Self-Brown

& Mathews, 2003). Faculty members should not feel as if they have to police in order to create the optimal environment. Instead they can encourage and regulate the behaviors and interactions between students. The final piece to setting up a positive classroom or program environment encourages students to learn the workplace values and behaviors by treating the classroom as a workplace (LeCompte, 1978). This is essential in all programs, especially those that are professional programs. By creating an environment similar to a workplace, students can both learn and apply the values that are essential to success within a profession. Environmental climate is a key piece of a student's experience on campus. It allows for students to be properly socialized into values and beliefs essential to succeed as a student and also as a professional while also allowing students to work with others of different backgrounds (LeCompte, 1978). It is essential for program directors and faculty members to create the optimal environment for all students to succeed.

Modeling Behaviors

The fourth program-specific characteristic that may influence a student's perception of cultural competence is the modeling of appropriate behaviors by the faculty and clinical staff. This fits with three different components of Campinha-Bacote's model of cultural competence; cultural knowledge, cultural skill, and cultural encounters. Appropriate behaviors are especially important for the clinical staff as they are modeling the behavior with actual patients while supervising students. As students are gaining valuable information within an academic program, it is important that cultural competence be conveyed. Faculty and staff should take significant measures to embrace the cultural differences of both the students in the classroom as well as the potential patients to whom students may eventually provide care to (Hurtado, 2007). Faculty and staff are essential role models for students and if they are not educating in a culturally competent

manner, they may not relay the importance of cultural and diversity (Mixer, 2008; Reid & Radhakrishnan, 2003). It is imperative that program directors emphasize the importance of modeling culturally competent behavior to both the faculty and clinical supervisors so that students can achieve the highest level of cultural competence.

Research Agendas

While it is important to set up the optimal program and environmental climates and to model appropriate behaviors, the research agendas of the faculty have an important implication on the information being conveyed to students. Faculty members who have diversity as part of their research agenda are more likely to integrate that information into their teaching, allowing students to have more exposure (Rew, et al, 2003; Smith, 2009). The fact that faculty have made diversity an emphasis will also instill in the students the importance of taking culture into consideration when making decisions (Milem, 2001; Pacquiao, 2007; Rew, et al, 2003; Smith, 2009; Waite & Calamaro, 2010). While only a small piece of overall cultural competence, the research agendas of faculty can have a major influence on a student ability to gain the appropriate cultural knowledge.

Delivering a Cultural Competence Curriculum

The final programmatic characteristic that influences a student's perception of cultural competence is the curriculum being delivered and the methods of delivery. The curriculum is specifically related to the cultural knowledge component of Campinha-Bacote's model. Studies have shown that cultural competence education can take a variety of approaches, but the recommendations have all suggested that cultural competence is best achieved when integrated across an entire curriculum (Brach & Fraserirector, 2001; Kardong-Edgreen & Campinha-

Bacote, 2008; Sargent, Sedlack & Martsolf, 2005). If a program chooses to incorporate the education throughout the curriculum, scaffolding is the best approach (Sargent, Sedlack & Martsolf, 2005). Scaffolding occurs when students are provided basic information that is constantly built upon throughout an entire curriculum. An example of this may be that students are first given cultural knowledge and then later on in the curriculum are asked to apply it in a scenario or actual cultural encounter. Other methods of cultural competence education include specific courses or cultural awareness training programs (CATP), with CATPs demonstrating a direct and positive impact on student perceptions of cultural competence (Lipson & Desantis, 2007; Wilson, Sanner& McAllister, 2010).

Once it has been decided to incorporate this education throughout an entire curriculum, a cultural awareness training program, or within one or two classes, achievement goals must be set. These goals can be guided either by the cultural competence model chosen or by a governing body. The American Medical Association (2005) created the tool for assessing cultural competence training (TACCT) to provide a guideline for program directors to demonstrate what physicians in training should receive in regards to cultural competence as well as a method for documentation (Mihalic et al, 2009). Currently in athletic training, a standardized form of documentation of cultural competence education is not available although the NATA states that cultural competence is a foundational professional behavior. Other researchers feel that goals for cultural competence education should be overall goals that are not specific to any task. These goals include increased self awareness, increased knowledge, increased levels of communication, provoking deeper student reflection, and to create a safe environment with a positive environmental climate (Abrums & Leppa, 2001; Brach & Fraserirector, 2001; Geisler, 2003; Shaya & Gbarayor, 2006).

To achieve the goals set forth by either an accrediting body or a program's curriculum design, there are many different approaches to implementing cultural competence into a program. Purnell (2002) explains that cultural objectives should be placed in all of the courses and can be achieved by a variety of methods. A variety of methods have been shown to allow for cultural competence education. Single classes either within the program or within other departments of the institution can focus on issues related to culture (Beach et al, 2005). It is important no matter the method, that cultural competence be an important influence within healthcare educational programs.

Within the field of Athletic Training, many of these methods can be utilized to increase cultural competence in students. Case studies and scenarios are currently utilized, so instructors could ask students to incorporate the culturally competent history and treatment into their current work. Role play is an important method of education currently used by ATEPs and these current uses could be modified to include culturally significant information that the student will need to take into consideration when evaluating, treating, and rehabilitating an injury.

One area that current ATEPs can encourage cultural competence education is in their clinical rotations. Students are spending 20-30 hours per week in the clinical setting working with a diverse population of patients and practitioners. It is essential that program directors and educators encourage students to look beyond just the clinical skills to how race, ethnicity, and culture can influence a patient's care. No matter what method is chosen, it is essential that programs define cultural competence and identify how they are going to incorporate it into their current curriculums.

Measurement of the program-specific characteristics in the current study occurred through both the student survey and the program director survey. Program diversity was calculated by the response of the program director regarding the number of non-white students and white students enrolled in the ATEP. Students and program directors were asked about their perceptions of programmatic climate by responding to whether or not cultural competence is a point of emphasis in the program and in the classroom. To measure current modeling behaviors, program directors were asked about faculty and clinical staff diversity and students were asked if their clinical instructors are modeling culturally competent behaviors. Program directors were asked if they or any of the ATEP faculty are engaged in research that is focused on culturally competence or the delivery of culturally competent care. Finally, the survey investigated the methods of implementation of their cultural competence curricula by determining if and how they are implementing this type of education through a single course, multiple courses, or throughout an entire curriculum.

Institutional Characteristics Influencing Cultural Competence

The final area of influence on a student's perception of cultural competence is institutional characteristics. While there is a wide range of institutional characteristics, there are two main areas of influence on cultural competence, institutional characteristics and institutional climate. For the purpose of this study, institution type, Carnegie Classification and campus climate will be utilized to discuss these institutional characteristics, with campus climate defined as the perceptions of diversity on campus by all students (Hurtado, et al, 1998; Milem, 2001; Pascarella 1975). The influence of institutional type will be discussed first.

Institutional Type

For the purpose of this study, institution type was the public or private status of the institution. Smith (2009), states that 74% of all students are enrolled at public institutions. In addition to the overall high number of students in public institutions, they are also where minority students tend to enroll (Pacquiao, 2007). Since the understanding of diversity is a product of the environment, if public institutions have higher numbers of minority students, individuals studying within this context may have a better opportunity to gain experiences learning from and working with individuals of a racial/ethnic minority which can lead to higher levels of cultural competence.

Carnegie and Other Classifications

Many researchers have studied the implications institution type has on diversity as a whole and the impact this diversity has on the students who attend these institutions. Institutions may be grouped by Carnegie Classification, institutional missions, or by being a special-purpose institution such as a historically black college or university (HBCU), Hispanic serving, or tribal college (Pacquiao, 2007; Smith, 2009). Carnegie Classification is the method of grouping institutions together by mission, degree-granting status, and research activities (The Carnegie Foundation for the Advancement of Teaching, n.d.). Classification may determine the types of programs offered, which may in turn have an influence on the type of student who enrolls. The additional classification by institutional mission may also have implications on diversity which influences cultural competence.

Most institutions have made statements that part of their mission is to increase diversity on campus (Smith, 2009). In some cases this may be an objective as simple as increasing the number of racial/ethnic minorities enrolled at the institution, for some it also means that there is

a focus to include a diverse perspective on all aspects of teaching, learning, and research (Pacquiao, 2007; Smith, 2009). This idea of a diversity-focused perspective on learning is especially important at special-purpose institutions. HBCUs and tribal colleges are institutions with the focus of recruiting and educating minority students (Smith, 2009). It has been shown that these special-purpose institutions provide a better perspective and understanding of culture and diversity for all students and faculty, which can lead to higher levels of cultural competence. The type of institution a student is enrolled in may have an influence on the level of cultural competence by its ability to provide different opportunities to engage in interactions, discussions, and learning opportunities within the context of diversity.

Institutional Climate

Many researchers have discussed the issues of climate and diversity and how they are directly related. Climate has been defined as the perceptions minority students have of a college or university campus, while diversity is typically defined as the actual numbers of minority students on these campuses (Hurtado, 2007; Hurtado, et al, 1998). One study broke institutional climate into four specific areas; the historical legacy of the institution, the structural diversity of the institution, the psychological climate, and the behavioral climate (Hurtado, et al, 1998; Purnell, 2002; Milem, 2001). Each of these four areas of institutional climate has a direct relationship with diversity and the cultural competence a student may gain while attending an institution. While all four areas of institutional climate will be discussed, only two components will be utilized for this study; structural diversity and the psychological component or student perceptions of climate.

The historical legacy of an institution is both the history of diversity at the institution as well as what the institution has done to increase diversity on campus (Hurtado, et al, 1998;

Milem, 2001). Hurtado and her colleagues (1998) state that institutions should not deny their histories of poor racial campus climate, but instead should embrace what has been done to change these inequalities. Overall, the history of diversity and the changes that have been made to increase diversity among institutions is similar. Most institutions began as predominately white (PWIs), with some smaller institutions being historically black (HBCUs) or tribal institutions (Hurtado, 2007; Hurtado, et al, 1998). As calls for diversity began, those PWIs began to actively change the diversity and in turn the campus climate (Hurtado, 2007; Hurtado, et al, 1998). When these students began to attend the PWIs, initially there was a poor campus climate and it became obvious that it was not just the level of diversity that needed to change but also the climate. By understanding the legacy of the institution, students, faculty, and administrators can gain perspectives on how climate has changed as well as the ways these changes have led individuals to work with each other (Hurtado, et al, 1998; Purnell, 2002).

The second portion of the campus climate theory is the topic of structural diversity. The structural diversity of an institution is the actual percentage of minority students attending the institution (Hurtado, 2007; Hurtado, et al, 1998; Milem, 2001). As was shown in the discussion of the historical legacy of institutions, the primary method of increasing diversity on college campuses has been to increase the number of minority students attending (Freeman, 1998; Hurtado, et al, 1998; Rhoads, Saenz, & Carducci, 2005). One reason that institutions felt it was important that there be an increase in the number of minority students is the idea that minorities will help support each other (Ancis, Sedlacek, & Mohr, 2000). Ancis, Sedlacek, and Mohr (2000) demonstrated that having those of similar racial and ethnic backgrounds increased the support the students received while attending an institution. The second reason institutions felt it was necessary to increase the number of students on the campus was the idea that diversity

increased multiculturalism (Antonio, et al, 2004; Hurtado, 2007). Multiculturalism is a college or university's overall ability to identify, combine, and celebrate all the different cultures found on campus (Antonio, et al, 2004). Multiculturalism is increased by the number of minority students attending by the fact that there are many more students of different racial and ethnic backgrounds (Antonio, et al, 2004; Hurtado, 2007). This will subsequently allow students to gain more experiences working with individuals different from their own background (Antonio, et al, 2004; Hurtado, 2007). This is essential so that they can learn to work in multicultural environments after leaving college (Antonio, et al, 2004; Hurtado, 2007).

While many institutions have diversified their students and faculty numbers, climate in many cases has not improved as much as hoped. It is important that institutions understand that it is not just a matter of the number of minority students enrolled at an institutions, it is the integration of these students into the population, the number of interactions and the quality of these interactions students have with individuals with cultural backgrounds different than their own (Mixer, 2008; Yearwood, Brown, & Kralik, 2002). It is important to remember as discussed in the program-specific characteristics all students, no matter if they are white or non-white, must have these interactions to improve their understanding of culture to become culturally competent.

Hurtado, Milem, Clayton-Pederson, and Allen (1998) state that of the four factors influencing climate the final two factors are related to student perceptions of campus climate. The psychological component of campus climate is directly related to the perceptions students feel about the racial climate of an institution (Hurtado, et al, 1998; Mayhew, Grunwald & Dey, 2005; Milem, 2001; Reid & Radhakrishnan, 2003). Essentially, the more minorities a student sees on campus, the better the perception of the racial campus climate (Reid & Radhakrishnan, 2003). A better perception of campus climate from students is usually related to how many

racial and ethnic minority students they see on campus and how they perceive the overall percentages of the institution (Reid & Radhakrishnan, 2003). Overall, minorities perceive a different racial climate than white students. White students perceive the most positive racial climate of all students while students of color perceive a negative racial climate (Ancis, Sedlacek, & Mohr, 2000; Hurtado, et al, 1998; Reid & Radhakrishnan, 2003). African American students perceive the most negative climate and in many cases feel that this negative climate causes conflict (Ancis, Sedlacek, & Mohr, 2000).

The psychological perception of campus climate is important in the cultural competence scheme because it is where programs, faculty, and administrators must force themselves and students to break out of their comfort zone. There must be an emphasis on understanding the different perspectives when teaching and making decisions within the institution (Mixer, 2008; Pacquiao, 2007; Yearwood, Brown & Kralik, 2002). This may be undertaken by an institutional emphasis of bringing students of a wide variety of race/ethnicities together to discuss and socialize their different cultural perspectives to gain understanding, cultural competence, and a positive perception of campus climate (Campinha-Bacote, 2007; Mixer, 2008; Yearwood, Brown & Kralik, 2002). It is also important to remember that while there may be an emphasis on the overall understanding of the different perspectives of cultures, the subgroups of each culture cannot be forgotten as they may also provide valuable insight into individual's perception of climate (Campinha-Bacote, 2007). The perceptions of campus climate of all students are an important piece of a student's ability to gain cultural competence.

Behavior climate is defined as the interactions between students on campus (Hurtado, et al, 1998; Milem, 2001). The interactions focused on are those between all students, minority students and other minorities as well as those with minority students and non-minorities

(Hurtado, et al, 1998; Milem, 2001). A lack of diversity on a campus is related to a major piece of behavioral climate. A non-diverse campus will limit the number of interactions a minority student may have (Hurtado, 2007). By increasing the exposure to other racial and ethnic backgrounds through diversity, perceptions can be changed and positive interactions can occur (Hurtado, 2007; Hurtado, et al, 1998).

When discussing the behavioral climate of a campus it is not just the number and interactions that occur; it is the type of interactions that are taking place (Antonio, et al, 1998; Mixer, 2008; Yearwood, Brown & Kralik, 2002). Many times minority students will limit their interactions to others of similar backgrounds (Antonio, et al, 1998). By doing this, it may cause an unhealthy association and in turn may cause poor interactions with others of different backgrounds (Antonio, et al, 1998). It has been recommended that in classrooms and in other areas where groups can be controlled, groups should be created to allow for many different types of students are included (Antonio, et al, 1998). By doing this, the overall interactions become more positive which will increase the positive perceptions felt by all students about the campus racial climate (Antonio, et al, 1998).

From an institutional perspective, a student's cultural competence comes from two main areas that interact with each other. The type of institution, public or private, and the classification of that institution may influence the actual diversity of the college or university. That structural diversity of the institution will lead to positive or negative perceptions of climate by all students, minority or non-minority. If there is poor climate, students are not able to integrate to socialize, deliberate, and learn the different cultural perspectives on all issues (Mixer, 2008). These cultural perspectives are directly related to a student's ability to provide culturally competent care.

Measurement of institutional characteristics took place through the collection and analysis of Integrated Postsecondary Education Data System (IPEDS) data, with one question on the student survey. Institutional type was determined by identifying if a program is public or private. Carnegie classification was utilized as well as identifying if an institution is a Historically Black College or University (HBCU), Hispanic serving, or a tribal institution. Structural diversity was calculated using the total number of students enrolled at the institution and the individual numbers of Black, Hispanic, American Indian/Alaska Native, and Asian students enrolled at the institution. The psychological component of climate, or student perceptions of climate, was determined through a question on the student survey.

When attempting to understand a student's perception of cultural competence, one must determine the areas of influence. This study seeks to determine the three areas of influence; individual, programmatic, and institutional characteristics that may influence this perception of cultural competence. The influence of these characteristics on Campinha-Bacote's model can be seen in Figure 2-3. It is essential that these three areas are looked at both from a characteristics perspective as well as how all three areas work together to allow for a student to become culturally competent.

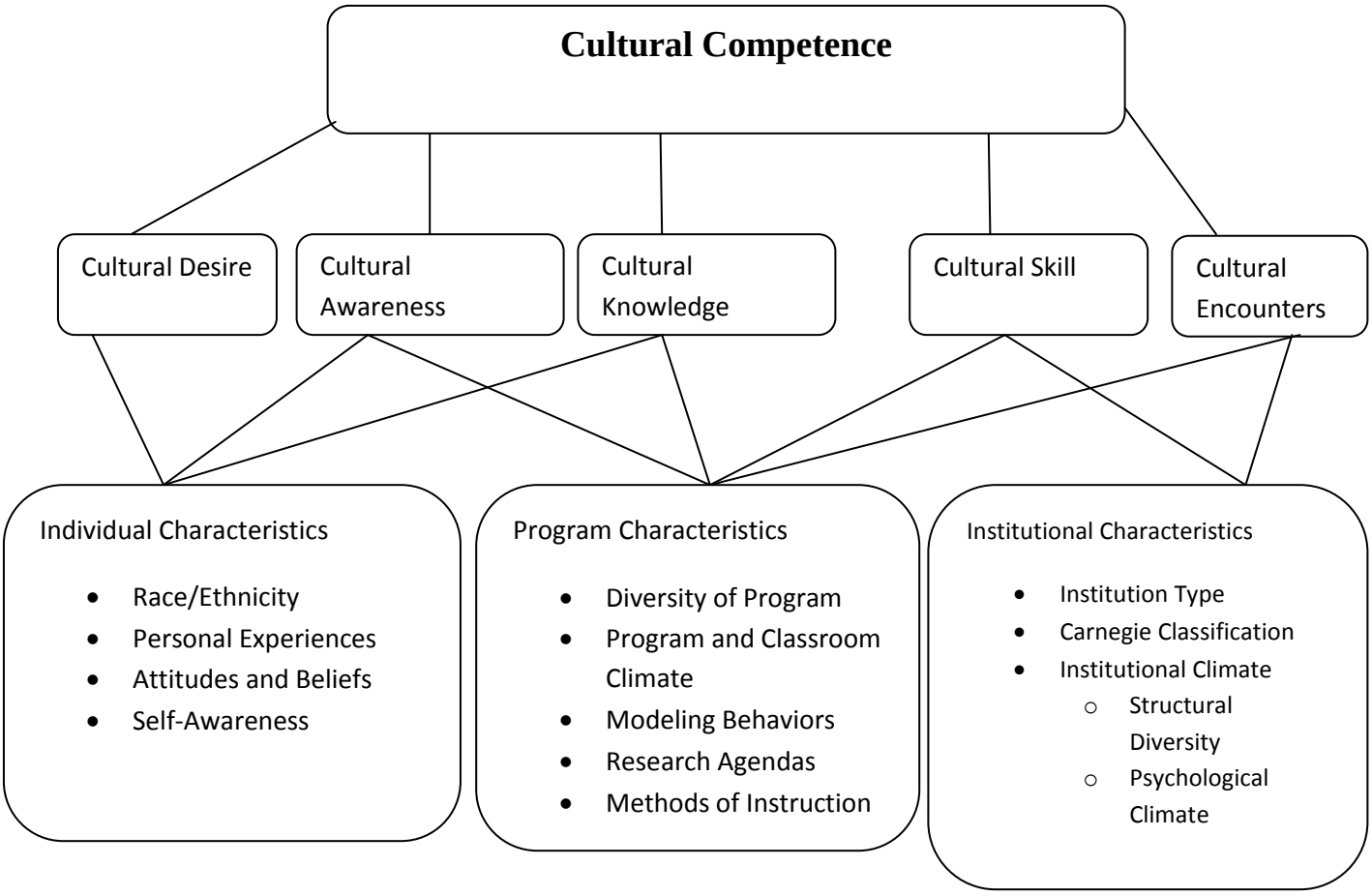

Figure 2-3: Interaction between Individual, Program, and Institutional Characteristics and the Model of Cultural Competence in the Delivery of Healthcare Services

CHAPTER III: METHODS

Research Design

The purpose of this study was to understand the self-reported level of cultural competence of athletic training students and to determine what personal, institutional, and programmatic characteristics are related to this perception of cultural competence. The research questions were as follows:

1. What is the level of cultural competence among athletic training students?
2. What individual, programmatic, and institutional factors influence athletic training students' perceptions of their cultural competence?

Data were solicited from the 344 undergraduate Commission on Athletic Training Education (CAATE) accredited programs located in the United States (www.CAATE.net). The 344 programs are the entire population of undergraduate accredited programs as of October 27, 2010 (www.CAAATE.net). Data on the 344 programs were collected through three sources, Integrated Postsecondary Education Data System (IPEDS) was used to collect institutional data, a Program Director survey was used to collect program specific data, and a student survey which collected individual, programmatic, and institutional variables. Each source provided discrete data related to each of the programs. IPEDs provided institutional specific data, the Program Director survey identified program specific data, while the student survey identified students' perception of cultural competence as well as other individual characteristics.

Participants

Program Directors were solicited for participation via an email sent out by the investigator detailing the purpose and the methods of the study. Program Directors were then

asked to relay study information to their entire student population enrolled in the professional phase of their athletic training education program.

Variables

Initially, for each of the 344 undergraduate ATEPs, institutional data was collected from the IPEDS 2007-2008 surveys (http://nces.ed.gov/ipeds/datacenter). Institutional data is made up of the basic demographics about the institutions where the 344 ATEP programs are located, specifically, institution type, Carnegie Classification, and structural diversity. This data represents three out of the four institutional characteristics that may influence a student's perception of cultural competence. The academic year 2008-2009 was selected for data collection, because it was the most recent complete set of variables (http://nces.ed.gov/ipeds/datacenter). The following is a list of the variables (Table 3-1) utilized from the IPEDS system (http://nces.ed.gov/ipeds/datacenter).

Table 3-1: Institutional Variables

IPEDS Variable	**Data Collected**	**Coding**
UNITID	Institutional Identification Number	
Control	Public verses private	1= Public, 2=Private
CC2005B	2005 Carnegie Classification	1= Bachelors, 2=Masters, 3=Doctoral
ENRLT	Total Enrollment	
FYRACE18	Total Black Non-Hispanic Enrollment	
FYRACE19	Total American Indian or Alaska Native Enrollment	
FYRACE20	Total Asian or Pacific Islander Enrollment	
FYRACE21	Total Hispanic Enrollment	

The second source of data, the Program Director survey, was utilized to gain program specific data that may influence an individual student's perceived level of cultural competence.

Program directors from the 344 accredited undergraduate ATEPs were surveyed to gain information demographics about the faculty, clinical instructors, and students, as well as cultural competence curriculum implementation. All program directors who completed the survey gave informed consent, which was approved by the Human Subjects Committee, Lawrence KS (Appendix A). Data were collected via 7 questions. Questions were based upon the Model of Cultural Competence in the Delivery of Healthcare Services**,** the Cultural Awareness Scale (CAS), and research on the implementation of cultural competence education (Beach et al, 2005; Campinha-Bacote, 2002; Campinha-Bacote, 2007; Krainovich-Miller et al, 2008; Rew et al, 2003). Below are the variables names (Table 3-2). The full survey can be found in Appendix B.

Table 3-2: Programmatic Variables

Variable	**Definition**	**How Variable Was Calculated**
School	School where Program is located	
TotalStudents	Total Number of Students Enrolled in ATEP	
TotalNWStudents	Total Number of Non-White Students Enrolled in ATEP	
TotalFaculty	Total Number of ATEP Faculty in ATEP	
TotalNWFaculty	Total Number of Non-White ATEP Faculty	
TotalACI	Total Number of ACI/CI in ATEP	
TotalNWACI	Total Number of Non-White ACI/CI in ATEP	
Effectiveness	Program Director Perception of Effectiveness of Cultural Competence Education	Agreement Measured on a Scale of 1-4 with 1=disagree, 2=somewhat disagree, 3= somewhat agree and 4=agree
Research	Number of AT Faculty Performing Culturally-Based Research	
Methods	Method of Implementation of Cultural Competence Education	Coded as 0= Nothing, 1=Something
Emphasis	Program Director Perception that Cultural Competence is an Emphasis in ATEP	Agreement Measured on a Scale of 1-4 with 1=disagree, 2=somewhat disagree, 3= somewhat agree and 4=agree

The final source of data were acquired through a student survey delivered to students enrolled in the professional phase of the 62 CAATE accredited ATEPS where program directors responded. The professional phase was delineated as students currently enrolled in ATEP coursework and clinical assignments required for certification. This survey utilized the Inventory for Assessing the Process of Cultural Competence (IAPCC) as a framework, but focused on student perceptions of cultural competence in addition to specific program and institutional questions, race/ethnicity, gender, SES, and an overall confidence in administering culturally competent care (Campinha-Bacote 2002; Campinha-Bacote, 2007; Krainovich-Miller et al, 2008; Rew et al, 2003). To determine a student's perceived level of cultural competence, 20 questions, framed by the IAPCC, asked students to rate on a scale of 1-4 their agreement with statements. The scores were then totaled to determine if a student was culturally incompetent (20-44), aware (45-63), competent (64-74), or proficient (75-80). The cumulative score, not the category, was the dependent variable used for analysis. The IAPCC was selected as a guide for the questions as the IAPCC and the student survey questions are directly related to Campinha-Bacote's Model of Cultural Competence and the respective five components (Campinha-Bacote 2002; Campinha-Bacote, 2007; Cronin, Fitzgerald, and Campinha-Bacote, 2010). The IAPCC survey has been found to be reliable and valid method of determining cultural competence with a Cronbach's α=.783 (Cronin, Fitzgerald, and Campinha-Bacote, 2010). Specific questions from the Cultural Awareness Scale (CAS) were modified to identify student perceptions of specific programmatic and institutional characteristics. The full survey can be found in Appendix C.

Quantitative Procedures

Surveys were distributed via Qualtrics, a web-based survey distribution service. While the Program Director and student surveys were completed, data from IPEDS were collected.

Program directors were initially emailed the survey which was followed up weekly for 3 weeks with an email soliciting for assistance. Program directors that failed to complete the full survey, yet had students who completed the student survey were solicited again 3 weeks after the initial email. Survey data from IPEDS was then combined with the Program Director and student data and prepared for analysis via SPSS 18.0 (SPSS Inc., Chicago, IL).

Quantitative Data Analysis

Data entered into SPSS was analyzed for means and standard deviations for all variables. Special care was taken when analyzing the descriptive data from the Program Director survey to identify if ATEPs are including cultural competence into their curricula. The questions rating perceived perception of cultural competence from the student survey were analyzed for reliability via a Cronbach's alpha. As this calculation demonstrated reliability among the questions, no further analysis was required to demonstrate the reliability of the perception of cultural competence cumulative score. A factor analysis was completed to identify subsets of questions from the survey, but failed to identify any statistically significant subsets.

To answer questions one and two the raw cumulative score on the student perception of cultural competence questions was the dependent variable. Students received a score of 20-80 by summing the responses of the twenty questions. Correlations between the dependent variable and all the associated independent variables were performed to identify relationships between the dependent variable and the independent variables. Additionally, correlations were calculated between all independent variables. Correlations were analyzed to determine if any variables within a block had a value above a 0.7, so that variables could be eliminated from the model. Analysis demonstrated that one correlation within the institutional characteristic block had a

value above a 0.7 (% non-white enrollment and % black enrollment, r =0.744), thus the percent non-white enrollment was removed prior to the block-wise regression. In addition to this variable, other negligible variables were eliminated prior to the regression. These variables included the number of faculty performing culturally based research and if an institution was an HBCU, tribal or Hispanic serving. A block-wise linear regression analysis was performed to identify the variables that influence a student's perception of cultural competence. The variables were entered in the following order: individual, programmatic, academic climate, institutional, and campus climate variables. Block-wise regression was chosen as it assists in identifying the individual contributions of each variable while also looking at the interactions of these variables when predicting a student's perceived level of cultural competence (Astin, 1970a, Astin 1970b, Pedhazer, 1997). Through the block-wise regression, variables that are not influential in the prediction of student perception of cultural awareness were eliminated to identify only significant variables. An alpha level of .05 was utilized to determine significance for all correlation and regression tests.

CHAPTER IV: RESULTS

The purpose of this study was to understand the self-reported level of cultural competence of athletic training students and what personal, institutional, and programmatic characteristics are related to this perception of cultural competence. Data were collected via three sources; IPEDS data, a program director survey, and an athletic training survey. IPEDS data were utilized for institutional characteristics, the program director survey determined programmatic characteristics, and the student survey determined the perceived level of cultural competence, gained information on individual characteristics as well as programmatic and institutional characteristics.

Response Rates

Institutional data IPEDS data were collected for all 344 CAATE accredited Athletic Training Education Programs (ATEPs) as of October 27, 2010 (Table 4-1, Appendix D). Seventy-four program directors from 33 states provided data on CAATE accredited Athletic Training Programs while 422 students from 62 programs and 31 states completed the student survey (Appendix E). This demonstrated a response rate of 22% of all programs for program directors and 18% of all programs for student responses. Only the complete data sets from 62 programs and students were utilized in the regression calculation.

Table 4-1 Institutional Descriptive Data for CAATE Accredited Athletic Training Programs (n=344)

	Frequency	Percent
Control		
Public	180	52.3
Private Non-For-Profit	162	47.1
Private For-Profit	2	0.6
Historically Black College or University	2	0.6
Tribal College	0	0
Hispanic Serving	0	0
Carnegie Classification		
Research (Very High Research Activity)	32	9.3
Research (High Research Activity)	39	11.3
Doctoral/Research	22	6.4
Master's colleges and universities (Large)	100	29.1
Master's colleges and universities (Medium)	43	12.5
Master's colleges and universities (Small)	25	7.3
Baccalaureate colleges (Arts and Sciences)	33	9.6
Baccalaureate colleges (Diverse Fields)	50	14.5

Descriptive Statistics

A Cronbach's alpha determined the twenty question perception of cultural competence in athletic training students' survey to be reliable with a calculated value α=0.721. Levels of cultural competence were determined for the 422 undergraduate students who completed the survey by summing the scores of all 20 questions. The mean score on the perceived cultural competence in athletic training students survey was 58.36 (SD 5.26). Scores ranged from 44 to 76 with the median and mode both being 58. Three hundred fifty three (83.7%) of the 422 undergraduate students who competed the survey scored in the culturally aware category, one student (0.2%) was found to be culturally incompetent, 65 students (15.4%) were considered to be culturally competent, and three students (0.7%) were culturally proficient (Table 4-2). It is important to know that culturally aware is the second lowest category of cultural competence.

Table 4-2: Athletic Training Student Perception of Cultural Competence (n=422)

	N	Percent
Culturally Incompetent (20-44)	1	0. 2%
Culturally Aware (45-63)	353	83.7%
Culturally Competent (64-74)	65	15.4%
Culturally Proficient (75-80)	3	0.047%

Further analysis of the twenty perception cultural competence variables was completed to identify any trends within the questions. High (above a 3.5) and low (below a 2.5) means were identified and grouped. Three questions were identified as having high means while four

questions were identified as having low means (Table 4-3). The three questions with high means were grouped as understanding the importance of cultural competence variables, meaning that students recognize diversity and the importance of cultural competence. The four low means are action variables, which demonstrate that while students recognize the importance, they lack the ability to implement cultural competence into their day to day clinical experiences.

Table 4-3: Understanding of Importance and Action Questions

	Mean
Understanding the Importance of Cultural Competence	
Individuals from different cultures and race/ethnicities may be predisposed to different types of injuries and illnesses	3.25
I enjoy learning about racial/ethnic differences from others	3.34
I want to provide the most appropriate and culturally competent care for my patients	3.57
Action	
Treatments are not dependent on the patient's race/ethnicity or culture	2.05
It is not important to provide culturally competent healthcare	3.26(negatively coded)
Diversity isn't important to me	2.87 (negatively coded)
I actively seek out a diverse social group	2.46

Individual Characteristics

Individual characteristics included: level in academic program (freshman through senior), gender, race/ethnicity, citizenship status, socioeconomic status, confidence in delivering culturally competent care, attendance of a predominately white high school, having a social network of friends of the same race/ethnicity, and if the student grew up in a predominately

white neighborhood (Tables 4-4, 4-5). Juniors accounted for 40.8% of the students while females accounted for 67.3% of those completing the survey. All race/ethnicities were covered by the survey however, 86.5% of the students identified themselves as white, 4% Black, 3.8% Hispanic, 1.7% Asian/Pacific Islander, 0.7% American Indian/Alaska Native, 2.1% as multiple races, and 1.2% as other. The majority of students did not qualify for a Pell grant (71.1%). Additional characteristics can be found in table 4-5.

Table 4-4: Descriptive Statistics of Responding Students Enrolled in CAATE Accredited Athletic Training Education Programs (n=422)

	Number	Percentage
Level		
Freshmen	16	3.8
Sophomore	81	19.2
Junior	172	40.8
Senior	153	36.3
Gender		
Male	138	32.7
Female	284	67.3
Race/Ethnicity		
White	365	86.5
Black	17	4.0
Hispanic	16	3.8
Asian/Pacific Islander	7	1.7
American Indian/Alaska Native	3	0.7
Multiple Races	9	2.1
Other	5	1.2

Socioeconomic Status		
Qualify for a Pell Grant	122	28.9
Don't Qualify for a Pell Grant	300	71.1

Table 4-5: Additional Individual Characteristics (n=422)[+]

	Mean	Std. Deviation
Confidence in Cultural Competence	3.30	0.675
Attended a Predominately White High School	3.08	1.013
Social Network of Individuals of the Same Race/Ethnicity	2.99	0.789
Grew Up in a Predominately White Neighborhood	3.15	0.92

[+] Agreement Measured on a Scale of 1-4 with 1=disagree, 2=somewhat disagree, 3= somewhat agree and 4=agree

Programmatic Characteristics

Programmatic characteristics included: enrollment statistics, the number of faculty and clinical instructors, the emphasis of cultural competence in the ATEP, the effectiveness of cultural competence education, number of faculty performing cultural-based research, and methods of implementation of cultural competence education (Tables 4-6, 4-7, 4-8). The average enrollment in CAATE accredited ATEPs was 32.7 (SD=21.5) students, with 12.23% (SD=14.14) of the students identified as non-white (n=74). Faculty and ACI/CI (Approved Clinical Instructor or Clinical Instructor) followed a similar trend of being mainly white individuals. When rating on a scale of 1-4 (disagree-agree), Program Directors rated the

emphasis of cultural competence in their ATEP as 2.73 (SD=0.608) and the effectiveness of this education as 2.82 (SD=0.532). This means that program directors somewhat agree that they place an emphasis on cultural competence in their ATEPs and this education is somewhat effective. Within these ATEPs, 0.23 (SD=0.631) faculty members were completing culturally based research. This means that most programs do not have faculty members performing culturally-based research. The methods of implementation of cultural competence education included were varied, with an emphasis throughout the entire curriculum (n=44, 59.5%) utilized the most. Choices included single courses, multiple courses, other methods, throughout the entire curriculum, or do not emphasize.

Table 4-6: Enrollment Statistics for CAATE Accredited Athletic Training Education Programs from Program Director Survey (N=74)

	Mean	Std. Deviation
Enrollment	32.7	21.5
Number White Students	28.16	20.76
Percentage of White Students	87.85	13.98%
Number Non White Students*	4.72	5.08
Percentage of Non White Students	12.23	14.14%
Number White Faculty	3.33	2.11
Percentage of White Faculty	95.06	2.77%
Number Non White Faculty	.22	.5
Percentage of Non White Faculty	4.69	11.86%
Number White ACI/CIs**	14.62	9.83
Percentage of White ACI/CIs	92.10	10.46%
Number Non White ACI/CIs	4.61	2.25

Percentage of Non White ACI/CIs	7.97	10.50%

* Non White includes: Black, Hispanic, American Indian/Native American, Asian, and International Students

** ACI/CI: Approved Clinical Instructor or Clinical Instructor

Table 4-7: Additional Programmatic Characteristics from Program Director Survey (n=74)

	Mean	Std. Deviation
Cultural Competence Emphasis in ATEP*	2.73	0.608
Effectiveness of Cultural Competence Education in ATEP*	2.82	0.532
Number of Faculty Performing Cultural Focused Research	0.23	0.631

***** n=72, Agreement Measured on a Scale of 1-4 with 1=disagree, 2=somewhat disagree, 3= somewhat agree and 4=agree

Table 4-8: Cultural Competence Education Methods of Implementation (n=74)

	Frequency	Percent
Single Course	4	5.4
Multiple Courses	4	5.4
Throughout Entire Curriculum	44	59.5
Do No Emphasize	21	28.4
Other Methods		
Presentations, Readings, Case Studies	1	1.4

Academic Climate

Academic climate was investigated on the student survey through student perceptions of the ATEP and the emphasis on cultural competence (Table 4-9). On a scale of 1-4 (disagree-agree), students perceived that their ATEP values cultural competence at 2.79 (SD=0.65), they worked with a highly diversified population 3.00 (SD=0.728), felt their ACI/CIs mentored cultural competence 2.33 (SD=0.706), and had the opportunity to work with an ACI/CI of a different race/ethnicity 2.44 (SD=0.925).

Table 4-9 Student Perceptions of Program Climate for Diversity (n=422)*

	Mean	Std. Deviation
Student Perception that ATEP Values Cultural Competence	2.79	0.65
Students Work with a Highly Diversified Patient Population	3.00	0.72
Student Perception of ACI/CI Mentoring of Cultural Competence	2.33	0.71
Students Work with an ACI/CI of a Different Race/Ethnicity	2.44	0.93

*Agreement Measured on a Scale of 1-4 with 1=disagree, 2=somewhat disagree, 3= somewhat agree and 4=agree

Institutional Characteristics

Institutional characteristics included: control, 2005 Carnegie Classification, and enrollment statistics (Tables 4-10, and 4-11). Of the 62 institutions, 59.6% were public and 40.3% were private. This is a similar distribution to the overall population of ATEPS. One school from the sample identified themselves as a Historically Black College or University (HBCU), while none were identified as tribal colleges or Hispanic serving. There were three

different types of 2005 Carnegie classifications, with Doctoral institutions representing 50% of the sample population, Masters 40.3% and Bachelors 9.6%. This sample is different than the overall population of ATEPs where 27% are Doctoral, 48.9% are Masters, and 24.1% are Bachelors institutions. Institutional enrollment statistics for 2008 showed the average enrollment for all institution that have an undergraduate ATEP at 11,555.85 (SD=11,577.35), with Blacks representing 8.3%, American Indian/Alaska Natives 0.8%, Asians, 3.1%, and Hispanics 5.2% (Table 4-11).

Table 4-10: Institutional Characteristics of Sample Population (n=62)

	Number	Percent
Carnegie		
Bachelors	6	9.6
Masters	25	40.4
Doctoral	31	50
Control		
Public	37	59.6
Private	25	40.4
Historically Black College or University	1	0.016
Tribal	0	0
Hispanic Serving	0	0

Table 4-11: 2008 Enrollment Statistics for Institutions with CAATE Accredited Athletic Training Education Programs

	n	Mean	Std. Deviation
Enrollment	344	11555.85	11577.35
Percentage Black	308	8.3	8.2

Percentage AI/AN*	308	0.8	2.1
Percentage Asian	308	3.1	4
Percentage Hispanic	308	5.2	6.9
Percentage Non-White**	308	16.5	10.7

*American Indian or Alaska Native

** Non White Includes: Black, American Indian/Alaska Native, and Hispanic

Student Perception of Campus Climate

Two questions on the student survey investigated campus climate through student perception of the relationship between their institution and diversity (Table 4-12). On a scale of 1-4 (disagree-agree), students perceived their institution somewhat emphasizes diversity on campus at 2.89 (SD=0.746) and the institution somewhat values diversity on campus at 3.36 (SD=0.53).

Table 4-12: Student Perceptions of Campus Climate (n=422)*

	Mean	Std. Deviation
Student Perception that Institution Emphasizes Diversity	2.89	0.746
Student Perception that Institution Values Diversity	3.36	0.533

* Agreement Measured on a Scale of 1-4 with 1=disagree, 2=somewhat disagree, 3= somewhat agree and 4=agree

Correlations

Correlations were calculated between all variables and placed into a matrix (Appendix F). Correlations were initially analyzed to determine if any variables within a block had a value above a 0.7, so that variables could be eliminated from the model. Analysis demonstrated that

one correlation within the institutional characteristics block had a value above a 0.7 (% non-white enrollment and % black enrollment, r= 0.744), thus the percent of non-white enrollment was removed prior to the block-wise regression.

Further analysis of correlations was performed and correlations above .3 were identified and investigated for trends. An individual's previous experiences are related to each other. Individuals who attended a predominately white high school are more likely to have friends of the same race/ethnicity (r = 0.405**)[1] and grew up in a predominately white neighborhood (r = 0.662**) In addition, if an individual grew up in a predominately white neighborhood, his or her social network would include mainly friends from the same race and ethnicity.

From the programmatic perspective, trends can be found in relationship to the diversity within the students, faculty, and clinical instructors as well as within the student perceptions of academic climate. The percent of white students enrolled in an ATEP is positively influenced by the percentage of white clinical instructors (r = 0.627**) and the percentage of white faculty members (r = 0.439**). The percentage of non-white students are negatively influenced by the percentage of white clinical instructors (r = -0.425**) and faculty (r = -0.428**) but is positively influenced by the percentage of non-white clinical instructors (r = 0.428**). This means that institutions that have higher non-white representation of faculty and clinical instructors are more likely to have higher numbers of non-white students enrolled within the ATEP. One way to increase the representation of non-white clinical instructors is to have a higher number of non-white faculty members (r = 0.547**). In addition to the relationships between the diversity of faculty, clinical instructors, and students, there is also a relationship between the diversity of the

[1] * Correlation Significant at the 0.05 level (2 Tailed)
** Correlation Significant at the 0.001 level (2 Tailed)

program and the number of faculty performing culturally based research. There is a positive relationship between this number of faculty researching culture and non-white faculty (r = 0.509**) and non-white clinical instructors (r = 0.383**). From the academic climate perspective, the more a student perceives the program values diversity, the more likely they are going to work with a highly diverse patient population (r = 0.308**) and perceive that the program values cultural competence (r = 0.432*).

Diversity provides interesting relationships from the institutional perspective. This study found that the more diverse an institution is, the more diverse the ATEP will be. A higher percentage of black student enrollments at the institutional level can be related to a higher percentage of non-white faculty in the ATEP (0.399**). It was also found that the higher the percentage of American Indian/Alaska Native students, the higher the non-white (r = 0.353**) and lower the white (r = -0.333**) ATEP faculty. The higher the percentage of Asian student enrolled at an institution, the higher the number of non-white students enrolled in an ATEP (r = 0.416**) and non-white clinical instructors (r = 0.361**). Hispanic institutional enrollment has similar trends with the clinical instructors and students. In addition to these enrollment trends, Hispanic enrollment percentage is negatively related the program director's perception that the program emphasizes cultural competence (r = -0.360**). This means that although there is more diversity within the institution, there is less of an emphasis on cultural competence education within the ATEP.

Regression Analysis: Overall Model for Cultural Competence

A block-wise linear regression was run on all the variables found within the five different blocks of characteristics. The dependent variable utilized was the cumulative score of 20

questions from the perception of cultural competence in athletic training students survey. Student characteristics were entered first followed by the programmatic, academic climate, institutional, and campus climate blocks. The variables in each block can be found in Table 4-13. The regression went through six steps. The final step found a statistically significant regression (adjusted $R^2 = 0.197$, Std Error = 4.05, $F(20,338) = 4.996$, $p < .001$) with five characteristics that contribute to the cultural competence score. These characteristics can be found in Tables 4-14.

The individual characteristic found to predict a student's cultural competence was the student's race/ethnicity (beta = -0.178, $p<0.05$). Follow-up t-tests found that there is a statistically significant difference between white and non-white student cultural competence scores ($t= 5.097$, $p< 0.001$) but no difference in their confidence to provide culturally competent treatment ($t= 1.579$, $p> 0.05$). A white student will have a lower cultural competence score than a student who is from a racial/ethnic minority however there is no difference in student's confidence in cultural competence. Research has demonstrated that individual characteristics can have both positive and negative influences on an individual's cultural competence. Data collected on nursing students showed that individuals who are from a minority race/ethnicity are more likely to have higher levels of cultural competence (Fitzgerald, Cronin & Campinha-Bacote, 2010). This increased level of cultural competence may be related to the increased number of culturally based discussions they have had, prior experiences, and their openness to engage in self-reflection and self-awareness (Fitzgerald, Cronin & Campinha-Bacote, 2010; Kumas-Tan, et al, 2007).

No programmatic variables were found to be statistically significant. However some aspects of a student's perception of academic climate characteristic does predicts a student's cultural competence. One that was significant in this study was working with a highly diversified patient population (beta = 0.120, $p<0.05$). The more a student perceives that they work with a highly diversified population, the higher his or her cultural competence score will be. Campinha-Bacote (2007), states that the more experiences that students and practitioners have with individuals from different race/ethnicities and cultures, the more cultural competence the individual will have. This exposure is essential in healthcare professional programs when educating students on clinical competencies as well as cultural competence. Students within ATEPs are provided a significant amount of time working with a variety of patient populations within their academic careers. When in these clinical settings, students must be exposed to and encouraged to give culturally appropriate care to patients from diverse populations (Pacquiao, 2007; The Diversity Research Forum, 2005; Waite & Calamaro, 2010). The location of ATEPs in colleges and universities, especially at the NCAA Division I athletic level, has been shown to provide students with a widely diverse patient population (NATA, 2010).

Two institutional variables were found to predict a student's cultural competence score. These variables were institutional control (beta = 0.123, $p<0.05$) and Carnegie classification (beta = 0.116, $p=0.05$). The institutional control variable demonstrates that student that attends a private school is going to perceive a higher level of cultural competence. Students who attend private institutions were more likely to have a higher perceived level of cultural competence than those enrolled in public institutions. The Carnegie classification variable demonstrates that students who attend a doctoral institution will have higher scores than students who attend

bachelors or masters institutions. Studies have shown that the type of institution directly relates to the programs available and the population who is enrolled (Smith, 2009).

The campus climate variable that can predict the overall cultural competence score is the student perception that the institution values diversity on campus (beta = 0.195, p=0.001). The institutional emphasis will directly influence the amount of emphasis programs and classes place on learning about diversity (Mixer, 2008; Hurtado, et al, 1998). This means that athletic training students who attend institutions that value diversity will have higher levels of cultural competence.

Table 4-13: Variable Blocks for Regression Equation

Individual Variables	1. Race/Ethnicity 2. Confidence in Providing Culturally Competent Care 3. Attended Predominately White High School 4. Friends are of the Same Race/Ethnicity 5. Grew up in a Predominately White Neighborhood
Programmatic Variables	1. % of White Students in ATEP 2. % of White Faculty in ATEP 3. Program Director Perception of Emphasis 4. Methods of Implementation 5. Number of Faculty performing Culturally Based Research 6. Program Director Perception of Effectiveness of Cultural Competence Education
Academic Climate Variables	1. Student Perception that Program Emphasizes Cultural Competence 2. Student Perception that Program Values Diversity 3. Student Perception of Working with a Diverse Population 4. Student Perception that ACI/CI Value Cultural Competence 5. Student has Worked with an ACI/CI of a Different Race/Ethnicity
Institutional Variables	1. Public versus Private 2. 2005 Carnegie Classification 3. Institution % Black Enrollment 4. Institution % American Indian/Alaska Native Enrollment 5. Institution % Asian Enrollment 6. Institution % Hispanic Enrollment
Campus Climate Variables	1. Student Perception that Institution Emphasizes Diversity 2. Student Perception that Institution Values Diversity

Table 4-14: Regression Model Predicting Raw Score of Student Perception of Cultural Competence

	Beta	t	Significance
Individual Characteristic			
Student's Race/Ethnicity	-0.178	-3.149	0.002
Academic Climate			
Student Perception that He or She has Worked with a Highly Diversified Patient Population	0.120	2.235	0.026
Institutional Characteristics			
Control	0.123	2.163	0.031
Carnegie Classification	0.116	1.971	0.05
Institutional Control			
Student Perception that Institution Values Diversity	0.195	3.395	0.001

CHAPTER V: DISCUSSION AND CONCLUSIONS

In all healthcare professions, the goal for practitioners is to optimize the quality of care being provided. Athletic Training, like other areas of healthcare, the lack of diversity within healthcare professionals may cause a decrease in the quality of care for patients, especially those who are from a racial/ethnic minority. Currently, there is a lack of diversity within all healthcare fields, which has lead to negative influences on the quality of healthcare provided to minority patients (Cohen, Gabriel, & Terrell, 2002; Gabard, 2007; Geisler, 2003; Perrin, 2000; Wilcox & Weber, 2005). The lack of diversity can decrease the quality of care for patients, especially those who are of a minority background, by limiting the access to healthcare and through the lack of culturally sensitive medical research (Cohen, Gabriel, & Terrell, 2002). While the overall goal is to increase the number of minority healthcare providers, it is also important that healthcare education programs include culturally competent education within their curricula to educate all students, white and non-white, on how to achieve a high quality of culturally competent care. Currently, the National Athletic Trainers Association states that cultural competence is a foundational professional behavior and requires all athletic training education programs (ATEPs) to demonstrate that students are being educated and evaluated on cultural competence.

Cultural competence has been defined many different ways within nursing and other medical research. This study used Campinha-Bacote's definition of cultural competence to determine the perceived level of cultural competence in undergraduate athletic training students and to investigate what individual, programmatic, and institutional characteristics influence this perceived level.

Cultural Competence Levels

This study found that students currently enrolled in the professional phase of their athletic training education program are not culturally competent. Students were found to be aware that there are cultural differences but not adequately prepared to provide culturally appropriate treatments. This was demonstrated when identifying the high and low scores of individual questions on the cultural competence survey. Items where students scored high emphasized the importance of cultural competence and diversity while the items that scored low were action items.

Previous research on the level of cultural competence in Athletic Trainers is scarce. However, there is a significant amount of research within the field of nursing. Two studies using the IAPCC have identified the level of cultural competence in nursing students similar to the level of cultural competence in athletic training students in this study. The findings of this study are slightly lower than current research in nursing, where students were identified as culturally aware (59.79, SD=5.62) instead of culturally competence or culturally proficient (Fitzgerald, Cronin, & Campinha-Bacote, 2010). Sargent, Sedlack, and Martsolf (2005), also found that senior level nursing students were also culturally aware with a mean score of 54.75, SD= 4.398. Wilson, Sanner, and McAllister (2010), take this lack of cultural competence a step further and state that students in nursing are aware of the cultural difference in patients and care but lack the cultural competence to provide the appropriate care. These scores demonstrate that while there has been an increased effort in cultural competence education, students in both nursing and athletic training still lack the ability to provide culturally competent care (Fitzgerald, Cronin & Campinha-Bacote, 2010; Sargent, Sedlack an Martsolf, 2005; Wilson, Sanner & McAllister, 2010).

This lack of cultural competence may be attributed to the quality of the education and the lack of opportunities to provide culturally competent care. This study demonstrated that students do perceive that they are exposed to diverse patient populations. While education programs are required to demonstrate cultural competence education throughout their curriculum, specific guidelines and competencies have not been provided to guide the methods of instruction. Additionally, there may be a disconnect between the classroom and the clinical experiences in cultural competence education. For students to learn the appropriate behaviors, clinical instructors must demonstrate and require these culturally appropriate behaviors. In addition to the clinical staff providing proper mentoring, students should also have a multitude of opportunities to apply their knowledge of cultural competence. Students may not have many opportunities to provide culturally competent care to individuals outside of the collegiate athletic setting. It is important that ATEPs continue to explore methods of educating students in cultural competence, encourage clinical instructors to mentor culturally competent behaviors, and to seek out a wide variety of opportunities for students to practice providing culturally competent care.

Individual Influences on Cultural Competence

When determining what influences a student's level of cultural competence, this study found interesting results. Five characteristics, one individual, one perception of academic climate, two institutional, and one perception of institutional climate, were found to be significant influences on a student's cultural competence. Within this study, only a student's race influences their ability to provide culturally competent care from the individual perspective. Students who are white scored lower on the cultural competence survey than their fellow

minority students. Data collected on nursing students demonstrates similar results. It showed that individuals who are from a minority race/ethnicity are more likely to have higher levels of cultural competence (Fitzgerald, Cronin & Campinha-Bacote, 2010). This increased level of cultural competence may be related to the increased number of culturally based discussions they have had, prior experiences, and their openness to engage in self-reflection and self-awareness (Fitzgerald, Cronin & Campinha-Bacote, 2010; Kumas-Tan, et al, 2007). While race is an important factor, the relationship may be inflated. Minority individuals, due to their previous experiences and their self-awareness, may actually overestimate their confidence and cultural competence abilities because they lack insight and awareness of cultures beyond their own (Kumas-Tan, et al, 2007). Programs should embrace the differences race and ethnicity bring to the program but should also be hesitant on relying only on this when educating students on cultural competence.

Interestingly, this study did not find that a student's prior experiences influenced his or her level of cultural competence. Previous research has stated that an individual's prior experiences have a direct relationship with his or her level of cultural competence (Cartwright & Revis-Shingles, 2011). Students who attend a predominately white high school, grew up in a predominately white neighborhood, and have a social network of friends from the same race/ethnicity, enroll in healthcare programs with limited experience attending classes and working with a diverse population. This lack of experience can lead to a lack of awareness and understanding of the different cultures and influence of these cultures, which will lead to a student not having the ability to provide culturally competent care (Fitzgerald, Cronin & Campinha-Bacote, 2010; Yearwood, Brown, & Karlik, 2002). Additionally, any negative experiences a student may have when dealing with minorities will have a negative impact on

their attitudes and beliefs towards these individuals and patients (Campinha-Bacote, 2007; Yearwood, Brown, & Karlik, 2002). While not a significant result in this study, these previous experiences should be taken into consideration when determining a student's ability to provide culturally competent care.

Programmatic and Academic Climate Influences on Cultural Competence

This study found that none of the programmatic variables influence a student's level of cultural competence. This is disappointing as this is an area where ATEPs would have the highest level of influence. Research has shown that program diversity can assist in providing students more understanding of different race/ethnicities through positive interactions and culturally sensitive discussions (Antonio et al, 2004; Astin, 1993; Hurtado, 2007; Mixer, 2008). This study found that ATEPs on average had 12.23% with a standard deviation of 14% minorities enrolled in the professional phase of their programs. Additionally, ATEPS lack diversity within their faculty and clinical instructors (faculty 95.06% white, clinical instructors 92.1% white). Athletic training students don't have enough minority peers, faculty, or clinical instructors to truly learn about the differences among individuals. From the method of implementation perspective, studies have shown that cultural competence education can take a variety of approaches, but the recommendations have all suggested that cultural competence is best achieved when integrated across an entire curriculum (Brach & Fraserirector, 2001; Kardong-Edgreen & Campinha-Bacote, 2008; Sargent, Sedlack & Martsolf, 2005). Purnell (2002), states that cultural objectives should be placed in all of the courses and can be achieved by a variety of methods. Although not influential on a student's cultural competence, this study found that 59.5% of ATEPs report that they integrate cultural competence education throughout the entire curriculum versus in a single course. Unfortunately, although it is a requirement for

accreditation, 21 programs (28.4%) stated that they did not emphasize cultural competence in their ATEP. While this factor should influence a student's perceived level of cultural competence, this lack of effect may be due to the quality of cultural competence education being delivered. This study did not determine the quality of cultural competence education being delivered, only the method of delivery. Although programs are implementing cultural competence education throughout the curriculum, the content may not be appropriate to achieve the cultural competence objectives. This is an area that needs to be further investigated so that the proper objectives are being implemented throughout a program. While this study did not find significant programmatic influences, program directors should still place an emphasis on cultural competence education, should seek to increase the diversity within their program, and implement some sort of cultural competence education into the curriculum.

Although none of the programmatic variables were found to influence a student's level of cultural competence, one academic climate variable that a program has a large influence on was found to be significant. The student perception that he or she has worked with a highly diversified patient population within their clinical assignments had a positive influence on cultural competence. The more a student perceives that he or she has worked with a highly diversified population, the more likely they are to have a higher cultural competence score. The location of ATEPs in colleges and universities, especially at the NCAA Division I athletic level, has been shown to provide students with a widely diverse patient population (NATA, 2010). However, this study suggests it is still important that program directors and clinical coordinators continue to seek out opportunities for students to work with diverse populations within their clinical sites. When in these clinical settings, students must be exposed to and encouraged to

give culturally appropriate care to patients from diverse populations (Pacquiao, 2007; The Diversity Research Forum, 2005; Waite & Calamaro, 2010).

While there was one academic climate variable that was found to influence cultural competence, three others did not. Students do not perceive that their ATEP is emphasizing cultural competence. Although program directors may state that their ATEPs are placing an emphasis on cultural competence, students may not be experiencing this is in the classroom. It is essential that the students recognize this emphasis as it is a key to cultural competence. Educational programs must focus on creating a better climate in the classroom and in the program (Briggance & Burke, 2002; Kai, et al, 2007; Wilson, Sanner, & McAllister, 2010). Programs that embrace and emphasize awareness, knowledge, and diverse cultural and social perspectives have been shown to assist students in achieving high levels of cultural competence (Abrums & Leppa, 2001; Mixer, 2008; Pacquiao, 2007; Rew et al, 2003; Shaya & Gbarayor, 2006). ATEPs should focus on embracing awareness within the classroom and clinical sites to encourage students to become more culturally competent.

This study also found that students do not perceive positive role modeling within their clinical assignments. Having worked with an ACI/CI who is perceived to value cultural competence or is of a different race/ethnicity was not a significant predictors of a student's perceived level of cultural competence. Research has demonstrated that it is essential that faculty and clinical instructors demonstrate and model the behaviors of cultural competence as role modeling is an important piece of the clinical education of athletic trainers (Geisler, 2003; Mixer, 2008; Reid & Radhakrishnan, 2003). This lack of influence may be due to two different things. Faculty and staff themselves may not be culturally competent as previously demonstrated by Sargent, Sedlack, and Martsolf (2005), who found that 39.2% of faculty members are

culturally competent and 56.9% were culturally aware utilizing the IAPCC. Additionally, with the lack of minority faculty members and clinical instructors, students may not have the opportunity to work with and learn from individuals from different race/ethnicities and cultures. By increasing the diversity among the mentors and emphasizing the importance of cultural competence, modeling behavior may be more influential in a student's perceived level of cultural competence.

Institutional and Institutional Climate Influences on Cultural Competence

This study found that three of the five characteristics that influence a student's level of cultural competence come from the institution itself or the climate of the institution. Athletic training students who attend private institutions are more likely to have higher levels of cultural competence than those attending public institutions. This is troubling because this study found that 59.6% of all CAATE accredited ATEPs were located in public institutions. Additionally, this is interesting because this study found that students attending private institutions were more likely to have a higher level of perceived cultural competence although the majority of these students were white. This finding is opposite of what many would assume and may be due to the lack of diversity within the athletic training student population.

Carnegie classification was the second institutional variable that was found to influence a student's level of cultural competence. Students who attend Doctoral institutions are more likely to have higher levels of perceived cultural competence. This may be due to the fact that these institutions are traditionally larger and more diversified than smaller institutions. Studies have shown that the type of institution directly relates to the programs available and the population who is enrolled (Smith, 2009). In addition to the Carnegie Classification, there were two schools

that identified themselves as Historically Black Colleges or Universities and none who identified themselves as Tribal or Hispanic serving institutions. The lack of numbers of these specialized institutions that focus on the education of minority populations demonstrates that athletic training education does not have a significant pipeline to high minority student populations. Having ATEPs in these specialized institutions may allow for better recruitment and retention of minority students (Smith, 2009).

There was one institutional variable that did not influence a student's cultural competence, an institution's structural diversity. Structural diversity is the percentage of minority students attending an institution (Hurtado, 2007; Milem, 2001). This study found that institutions with CAATE accredited ATEPs had an overall 16.5% SD= 10.7% enrollment of non-white students. Having a higher representation of minority students may influence the psychological and behavioral climate of the institution for both minority and non-minority students (Freeman, 1998; Rhoads, Saenz & Carducci, 2005). This increased number minority students will also provide more exposures for students as well as more opportunities to gain knowledge about race/ethnicity and culture, all of which are essential to gaining cultural competence (Campinha-Bacote, 2007). One would assume that increased diversity on campus would increase the cultural experiences of a student which in turn would lead to high levels of cultural competence, however this study did not find this link, possibly because the surveys did not measure the quality and number of interactions student have on campus. By measuring involvement in campus activities or participation in campus diversity workshops, the quality and number of interaction may give a better understanding of how diversity on campus may or may not influence cultural competence.

Only one student perception of campus climate variable, the perception that the institution values diversity, influenced the perceived level of cultural competence. This study found that the more a student perceives that his or her institution values diversity, the more likely they will become culturally competent. The institutional emphasis on diversity will directly influence the amount of emphasis programs and classes place on learning about diversity, as well as campus climate overall (Mixer, 2008; Hurtado, et al, 1998). Campus climate is the area where the institution works to create a diverse student population and creates a positive environment where students feel that they can break out of their comfort zone and learn about the differences among individuals (Hurtado, et al, 1998). Essentially, the more a student experiences the institutional emphasis on diversity and is immersed within a diverse population on campus, the higher perception they have that the institution values diversity (Reid & Radhakrishnan, 2003). This is important as the structural diversity of the institution does not influence a student's cultural competence. As long as predominately white institutions are placing an emphasis on diversity, students' levels of cultural competence may increase. Program directors cannot change any of these institutional influences, but should seek out ways to maximize the impact the institution has on a student's cultural competence.

Summary

Healthcare is a concern for all individuals, no matter race, ethnicity, gender, religious affiliation, or sexual orientation. Appropriate healthcare for those from racial/ethnic minorities is a major concern. Research has demonstrated that the best methods for providing the appropriate care for these minority patients are to increase the diversity within the healthcare practitioner population and education for all practitioners on cultural competence. Diversity among the practitioner population could decrease the gap in healthcare available to those individuals who

are racial and ethnic minorities as well as those individuals in other underserved populations (Cohen, Gabriel, & Terrell, 2002; Ralston, 2003). If diversity continues to be difficult to achieve, the emphasis on cultural competence education needs to increase. Cultural competence is the on-going process where individuals gain knowledge, experience, and comfort in dealing with patients that are different from themselves (Brach & Fraseririchter, 2001; Briggance & Burke, 2002; Cartwright & Revis Shingles, 2011; Kai et al, 2007; Krainovich-Miller et al, 2008; Mixer, 2008; Pacquiao, 2007; Shaya & Gbarayor, 2006; Waite & Calamaro, 2010; Wilson, Sanner, & McAllister, 2010). By educating practitioners from all race/ethnicities to provide culturally appropriate care to all patients, the gap in healthcare can decrease.

This study sought to determine the student levels of cultural competence in a small subset of healthcare, athletic training. It also sought to understand the individual, programmatic, and institutional characteristics that influence athletic training students' perceived levels of cultural competence. This study identified one individual, one academic climate, two institutional, and one campus climate characteristic that influences athletic training students' perceived level of cultural competence. The individual characteristic was the students' race/ethnicity, which provided a negative influence on white students enrolled in ATEPs. The academic climate variable of the student perception of working with a highly diversified patient population in the clinical setting provided a positive influence. The institutional characteristics found to be significant influences on cultural competence were control and Carnegie classification. Students enrolled in private institutions scored higher than those in public institutions. Those enrolled in Doctoral institutions scored higher than those in Bachelors or Masters institutions. It is important to understand all of the influences on athletic training students' cultural competence so

academic programs can utilize them to best educate their students to provide culturally competent care.

Practical Implications

With CAATE accreditation requiring ATEPs to educate students in cultural competence, it is essential that programs understand the factors that influence cultural competence. Based on the findings of this study, the following recommendations can be made with regards to the individual, programmatic and institutional characteristics that influence cultural competence. Individual characteristics, while innate to the individual, do influence an athletic training student's perception of cultural competence. Although it was determined that the athletic training student population lacks diversity, those students who are from racial/ethnically diverse backgrounds have higher levels of cultural competence. This may be due to their previous experiences and programs should take advantage of these experiences when discussing cultural in the classroom and clinical settings. Previous experiences can play both a positive and negative role in cultural competence. Programs should work to educate those students who attended predominately white high schools about cultural competence, as this is a negative influence on perceived levels of cultural competence. By forcing students to become aware of their prior experiences, biases, personal feelings on cultures and encouraging the seeking of knowledge of other race/ethnicities, students will become more culturally competent. Athletic Training Education program directors must understand the influences of these individual characteristics when educating students, creating a positive classroom climate, and determining cultural competence.

Similar to individual characteristics, those of the institution are not easily modified, but if positive, can be embraced within the ATEP to assist in creating a positive academic climate. This study found that students who attend private institutions had higher levels of perceived cultural competence as well as those enrolled in Doctoral institutions. It is essential that program directors at public institutions, as well as Bachelors and Masters institutions, encourage the knowledge and behaviors necessary for cultural competence. Additionally, programs should embrace the emphasis an institution places on diversity and incorporate it into their academic programs.

While none of the programmatic and only one academic climate variables were found to be linked to cultural competence, it is still an important area of influence. Program directors can utilize the information gained in this study to identify if students are culturally competent and how to influence this level of cultural competence. I feel that it is essential that ATEPs identify a baseline measurement of how well they are educating students to provide culturally competent care prior to the implementation of new cultural competence education and continually monitor the progress students are making. By gathering this information, programs can set goals and create a plan to achieve an appropriate level of cultural competence within the student population. By making it apparent to students that diversity is valued and providing an appropriate classroom/program climate, students will gain cultural competence. Additionally, ATEPs need to provide students with ample opportunities to work with diverse patient populations. This study identified that students perceive that they are working with a diverse population. Programs should attempt to identify opportunities outside of this clinical site to increase student interactions with individuals of different race/ethnicities and cultures. This may be as simple as taking advantage of a community population or encouraging students to

participate in study abroad programs. In the end, ATEPs need to continue to encourage and emphasize cultural competence while investigating the optimal methods of education and clinical experience.

Limitations

Limitations do exist in this study. Data was dependent upon program directors and students completing the survey. In addition to the dependence on survey completion, the lack of diversity within the education programs, both in the students and faculty and the lack of representation of specific geographic regions may have influenced the results. Diversity within the classroom and program may improve the quality of cultural competence education in academic programs. This diversity may be linked to the lack of diversity within athletic training or the minimal representation of programs for high minority areas. Only 17 of the programs that responded were found in the south and the southwest regions of the United States. If more students and programs had responded from these areas, there may be an increase in minority students responding. Research has also demonstrated that minority individuals tend to have higher cultural competence scores than whites. This study demonstrated a lack of variability within dependent variable that may have been influenced by the lack of higher scoring individuals.

The lack of variability may also be linked to the lack of quality cultural competence education being provided to athletic training students. This lack of variability within the cultural competence scores may limit the ability to identify predictive characteristics. Additionally, a strictly quantitative study may not be able to discretely pinpoint the minor influences of all the individual, programmatic, and institutional characteristics. Although cultural competence has

been a professional standard since the fourth edition of the Athletic Training Education Competencies, some programs are still not placing an emphasis on this type of education. Many programs may be struggling with this emphasis as there is not a recommended guide to cultural competence within the field and neither the NATA nor CAATE has come out with a distinct method of integration, which may lead to programs not having a clear approach to implementation of cultural competence within their curriculum. Further research can seek to limit these limitations and to provide guidance on how Athletic Training Education Programs can emphasize cultural competence education.

Implications for Future Research

Research has shown that all medical and allied health fields should look to increase diversity within their practitioner populations (Cohen, Gabriel, & Terrell, 2002; Ralston, 2003). Previous research has demonstrated that the best method of attaining this goal is to look to increase the number of minority students enrolling in the specific education programs (Gabard, 2007; Nevarez, Hibbler, & Cleary, 2002; Libby, Zhou & Kindig, 1997; Perrin, 2000; Wilcox, & Weber, 2005). Future research should focus on distinct methods by which athletic training and other allied health programs can increase the number of minority individuals enrolled in their programs and entering the professional fields. This may include a case study approach identifying what methods are currently being utilized by programs that are successful in enrolling minority individuals.

While the increase in diversity has been an emphasis, the question also becomes what should we do with the current lack of diversity in the student and practitioner population? Many professions, especially physicians and nurses, have started to implement cultural competence

into their academic curriculums to educate all students on how to give culturally competent care to all patients (Brach & Fraseririchter, 2001; Briggance & Burke, 2002; Kai et al, 2007; Krainovich-Miller et al, 2008; Mixer, 2008; Pacquiao, 2007; Shaya & Gbarayor, 2006; Waite & Calamaro, 2010; Wilson, Sanner, & McAllister, 2010). An area of future research is to expand this study to focus specifically on the methods of implementation current programs are utilizing to educate students on cultural competence. A student only approach could investigate the methods that work best for athletic training students to learn culturally competent care. This student only approach may identify the methods that are appropriate for all students as well as the methods appropriate for whites and non-whites. Finally, research could also be done to create a specific athletic training assessment of cultural competence that is based on cultural competence needs of just athletic trainers.

Conclusion

This study demonstrated that athletic training students are culturally aware of the differences in patients from different race/ethnicities and cultures but are not culturally competent in providing appropriate care. Individual, programmatic, and institutional characteristics were identified as predictors of this perceived level of cultural competence. While Athletic Training Education Programs (ATEPs) cannot influence a student's race/ethnicity, where a student grew up, or if their institution values diversity on campus, this study demonstrates that there are areas that program directors can influence students' cultural competence. Program directors need to emphasize the diversity of clinical experiences throughout their curriculum and provide the best education possible to increase the student's confidence in their ability to provide culturally competent care. As the NATA continues to make cultural competence a point of emphasis, ATEPS must continue to increase the quality of

education for athletic training students, so that they can give the most culturally appropriate care when dealing with diverse patient populations.

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Appendix A: Internet Informed Consent

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 1/26/2011. HSCL #19180

The Department of Educational Leadership and Policy Studies at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are conducting this study to better understand cultural competence in Athletic Training Education. This will entail your completion of a questionnaire. The questionnaire packet is expected to take approximately 15 minutes to complete.

The content of the questionnaires should cause no more discomfort than you would experience in your everyday life. Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of cultural competence in Athletic Training. Your participation is solicited, although strictly voluntary. Your name will not be associated in any way with the research findings. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or mail.

Completion of the survey indicates your willingness to participate in this project and that you are at least age eighteen. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, or email mdenning@ku.edu.

Sincerely,

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Appendix B: Program Director Survey

The National Athletic Trainers Association states that cultural competence is a foundational behavior of professional practice and it has been included in athletic training education since the fourth edition of the educational competencies. This study seeks to understand Athletic Training Students (ATS) perceived level of cultural competence in addition to understanding, the individual, programmatic, and institutional characteristics that influence the students' level of cultural competence. The purpose of this particular questionnaire is to gather information about your program. Thank you for taking the time to complete this survey and encouraging your students to complete the student survey.

1. Please select the state in which your athletic training program is located
2. Please identify which program you represent
3. Please fill in the following chart:

Total number of students	
Total number of **white** students	
Total number of **non-white** (including Black, Hispanic, Asian, American Indian, Alaska Native, Pacific Islander, International) students	
Total number of faculty	
Total number of **white** faculty	
Total number of **non-white** (including Black, Hispanic, Asian, American Indian, Alaska Native, Pacific Islander, International) faculty	
Total number of ACI/CI	
Total number of **white** ACI/CI	
Total number of **non-white** (including Black, Hispanic, Asian, American Indian, Alaska Native, Pacific Islander, International) ACI/CI	

For the purposes of this study, Cultural Competence is defined as a clinician's ability to provide culturally appropriate care for individuals of all race/ethnicities and cultures. To do this, individuals must factor in race/ethnicity and culture into all evaluation, treatment, and rehabilitative decisions. Please respond to the following questions with this definition in mind.

4. On a scale of 1 to 4, to what extent is cultural competence education an emphasis in your program?

5. How do you educate your Athletic Training Students (ATS) on cultural competence?
    - **a.** Single course requirement
    - **b.** Multiple courses
    - **c.** Throughout the curriculum

d. Do not emphasize
e. Other (please specify)

6. How many faculty in your program are conducting research that considers the multi-cultural aspects of health-related issues or cultural competence?

7. Overall, on a scale of 1-4, how effective is your program in educating Athletic Training Students in providing culturally competent care.

Appendix C: Student Survey:

The National Athletic Trainers Association states that cultural competence is a foundational behavior of professional practice and it has been included in athletic training education since the fourth edition of the educational competencies. This study seeks to understand Athletic Training Students (ATS) perceived level of cultural competence in addition to understanding, the individual, programmatic, and institutional characteristics that influence the students' level of cultural competence. This questionnaire seeks to obtain your perceptions of your cultural competence and your experiences with diversity. Thank you for taking the time to complete this survey.

Please select the state in which your Athletic Training Education Program is located

Please select the Athletic Training Education Program you are enrolled in

Please select what year in college you are:

- Freshman
- Sophomore
- Junior
- Senior
- Other

Please select your gender

Please check all the race/ethnicities you best identify with.

- White
- Black
- Hispanic
- Asian/Pacific Islander
- American Indian/Alaska Native
- Multiple
- Other

Citizenship Status

- US Citizen
- Permanent Resident (Green Card)
- Neither

Do you qualify for a Pell Grant?

Yes

No

The focus of the following questions is cultural competence education in Athletic Training. For the purposes of this study, cultural competence is defined as a clinician's ability to provide culturally appropriate care for individuals of all race/ethnicities and cultures. To do this, individuals must factor in race/ethnicity and culture into all evaluation, treatment, and rehabilitative decisions. Please answer the following questions with this definition in mind.

On a scale of 1-4with one being not confident and 4 being extremely confident, how confident are you in your abilities to provide culturally competent care to all patients?

On a scale of 1-4 with one being strongly disagree and four being strongly agree, please rate your agreement with the following statements

1. Individuals from different race/ethnicities have different healthcare concerns.
2. It is important to take race/ethnicity and culture into consideration when treating a patient.
3. My knowledge of culture and different race/ethnicities may be limited.
4. I am aware of my own personal biases towards individuals from different race/ethnicities or cultures.
5. Individuals from different cultures and race/ethnicities may be predisposed to different types of injuries and illnesses.
6. Treatments are not dependent on the patient's race/ethnicity or culture.
7. I don't have knowledge of other race/ethnicities or cultures.
8. It is not important to provide culturally competent healthcare
9. I am confident in my ability to take into consideration a patient's race/ethnicity and culture into consideration when performing an evaluation.
10. I am not confident in my ability to consider a patient's race/ethnicity and culture when making treatment decisions.

11. I am confident in my ability to ask my patient how race/ethnicity and culture may influence their health.

12. I recognize when I don't have the ability to provide culturally competent care.

13. I enjoy learning about racial/ethnic differences from others.

14. My personal experiences have influenced how I work with patients from different cultures and race/ethnicities.

15. Diversity isn't important to me.

16. I actively seek out a diverse social group

17. I find myself in a diverse population both in my education program and on campus

18. I purposefully seek out knowledge to better understand the relationship between race/ethnicity, culture, and health

19. To gain cultural competence a person must actively engage in the process

20. I want to provide the most appropriate and culturally competent care for my patients

On a scale of 1-4 with 1 being strongly disagree and 4 being strongly agree please rate the following questions about your experiences:

21. I feel that cultural competence is a point of emphasis in my academic program.

22. Overall, my program academic program values cultural competence.

23. I have worked with a diverse population of patients in the clinical setting.

24. My clinical instructors emphasis the differences between race/ethnicities and cultures when mentoring in the clinical setting.

25. I have worked with a clinical instructor who is of a different race/ethnicity or culture than my own.

26. Diversity is a point of emphasis at my college or university.

27. Overall, my institution values and respects diversity and the differences between race/ethnicities and cultures

28. Prior to college I attended a predominately white high school.

29. The majority of my friends are from the same race/ethnicity as myself

30. I grew up in a predominately white neighborhood.

Appendix D: Distribution of CAATE Accredited Athletic Training Educational Programs by National Athletic Trainers Association (NATA) District (N=344)

District	States	Number of Accredited ATEPs
1	ME, NH, MA, RI, CT, VT	25
2	NY, PA, NJ, DE	33
3	SC, NC, VA, WV, MD, DC	47
4	OH, MI, IL, IN, WI, MN	80
5	OK, KS, NE, SD, IA, MO	54
6	TX, AR	22
7	NM, AZ, UT, CO, WY	13
8	CA, NV, HI	16
9	FL, GA, AL, MS, LA, TN	45
10	WA, OR, ID, MT, AK	9

Appendix E: Response Rates for Students and Programs Directors by NATA District

District	States	# Program Directors Responding	# Athletic Training Students Responding
1	ME, NH, MA, RI, CT, VT	3	21
2	NY, PA, NJ, DE	7	45
3	SC, NC, VA, WV, MD, DC	10	41
4	OH, MI, IL, IN, WI, MN	17	88
5	OK, KS, NE, SD, IA, MO	14	96
6	TX, AR	4	30
7	NM, AZ, UT, CO, WY	6	50
8	CA, NV, HI	5	13
9	FL, GA, AL, MS, LA, TN	6	31
10	WA, OR, ID, MT, AK	2	7

Appendix F: Correlation Matrix

	Raw Cultural Competence Score	Race/Ethnicity	Confidence in Providing Culturally Competent Care	Attended Predominately White High School	Friends are of the Same Race/Ethnicity	Grew up in a Predominately White Neighborhood	% of White Students in ATEP
Raw Cultural Competence Score	1	0.2**	0.148**	-0.141**	-0.16**	-0.162**	-0.138**
Race/Ethnicity	0.2**	1	0.042	-.180**	-0.393**	-0.289**	-0.250**
Confidence in Providing Culturally Competent Care	0.148**	0.042	1	-0.005	-0.021	0.023	-0.078
Attended Predominately White High School	-0.141**	-0.18**	-0.005	1	0.405**	0.662**	0.203**
Friends are of the Same Race/Ethnicity	-0.16**	-0.393**	-0.021	0.405**	1	0.395**	0.230**
Grew up in a Predominately White Neighborhood	-0.162**	-0.289**	0.023	0.662**	0.395**	1	0.184**
% of White Students in ATEP	-0.138**	-0.250**	-0.078	0.203**	0.230**	0.184**	1
% of Non-White Students in ATEP	-0.03	0.139**	0.005	-0.216**	-0.183**	-0.126*	-0.183**
% of White Faculty in ATEP	-0.117	-0.210**	-0.015	0.016	0.093	0.081	0.439**
% of Non-White Faculty in ATEP	0.14	0.233**	-0.006	-0.037	-0.100*	-0.107*	-0.107*

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A. Unable to Calculate

	Raw Cultural Competence Score	Race/Ethnicity	Confidence in Providing Culturally Competent Care	Attended Predominately White High School	Friends are of the Same Race/Ethnicity	Grew up in a Predominately White Neighborhood	% of White Students in ATEP
% of White ACI/CI in ATEP	-0.127	-0.127*	-0.26	0.102*	0.192**	0.091	0.627**
% of Non-White ACI/CI in ATEP	0.124	0.126*	0.026	-0.103*	-0.193**	-0.095	-0.632**
Program Director Perception of Emphasis	0.169**	0.052	0.068	0.078	-0.028	0.034	-0.066
Methods of Implementation	-0.04	0.042	-0.05	0.037	0.049	0.013	0.05
Number of Faculty performing Culturally Based Research	0.09	0.166**	-0.022	-0.045	-0.1*	-0.111*	-0.193**
Program Director Perception of Effectiveness of Cultural Competence Education	0.169**	0.052	0.068	0.078	-0.028	0.034	-0.066
Student Perception that Program Emphasizes Cultural Competence	0.267	0.051	0.062	-0.125*	-0.177*	-0.145**	-0.097

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A. Unable to Calculate

	Raw Cultural Competence Score	Race/Ethnicity	Confidence in Providing Culturally Competent Care	Attended Predominately White High School	Friends are of the Same Race/Ethnicity	Grew up in a Predominately White Neighborhood	% of White Students in ATEP
Student Perception that Program Values Diversity	0.272**	0.041	0.147**	-0.111**	-0.05	-0.094	-0.09
Student Perception of Working with a Diverse Population	0.215**	0.051	0.226**	-0.081	-0.074	-0.022	-0.202**
Student Perception that ACI/CI Value Cultural Competence	0.180**	-0.004	0.101*	-0.082	-0.08	-0.086	-0.100*
Student has Worked with an ACI/CI of a Different Race/Ethnicity	0.145**	0.258**	0.056	-0.204**	-0.212**	-0.255**	-0.297**
Public versus Private	0.008	-0.015	-0.076	-0.03	-0.017	-0.089	-0.004
Historically Black College or University	-0.129**	-0.152**	-0.089	-0.05	0.034	0.075	0.520**
Tribal College	A	A	A	A	A	A	A
Hispanic Serving Institution	A	A	A	A	A	A	A
2005 Carnegie Classification	-0.08	-0.076	-0.002	0.108*	0.038	0.034	0.158**
Institution % Black Enrollment	0.114	.0113*	0.112*	0.026	-0.046	0.005	-0.507**
Institution % American Indian/Alaska Native Enrollment	-0.039	0.053	-0.105*	-0.006	-0.026	0.011	-0.027

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A. Unable to Calculate

	Raw Cultural Competence Score	Race/Ethnicity	Confidence in Providing Culturally Competent Care	Attended Predominately White High School	Friends are of the Same Race/Ethnicity	Grew up in a Predominately White Neighborhood	% of White Students in ATEP
Institution % Asian Enrollment	0.07	0.083	0.057	-0.191**	-0.154**	-0.117*	-0.413**
Institution % Hispanic Enrollment	0.019	0.108*	0.0505	-0.142**	-0.202**	-0.066	-0.423**
Institution % Non-White Enrollment	0.110*	0.169*	0.105*	-0.106*	-0.179**	-0.061	-0.702**
Student Perception that Institution Emphasizes Diversity	0.165**	0.05	0.053	-0.016	-0.046	-0.063	-0.092
Student Perception that Institution Values Diversity	0.275**	0.024	0.137**	-0.007	0.065	0.057	-0.097

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	% of Non-White Students in ATEP	% of White Faculty in ATEP	% of Non-White Faculty in ATEP	% of White ACI/CI in ATEP	% of Non-White ACI/CI in ATEP	Program Director Perception of Emphasis	Methods of Implementation
Raw Cultural Competence Score	-0.03	-0.117	0.14	-0.127	0.124	0.169**	-0.04
Race/Ethnicity	0.139**	-0.210**	0.233**	-0.127*	0.126*	0.052	0.042
Confidence in Providing Culturally Competent Care	0.005	-0.015	-0.006	-0.26	0.026	0.068	-0.05
Attended Predominately White High School	-0.216**	0.016	-0.037	0.102*	-0.103*	0.078	0.037
Friends are of the Same Race/Ethnicity	-0.183**	0.093	-0.100*	0.192**	-0.193**	-0.028	0.049
Grew up in a Predominately White Neighborhood	-0.126*	0.081	-0.107*	0.091	-0.095	0.034	0.013
% of White Students in ATEP	-0.183**	0.439**	-0.107*	0.627**	-0.632**	-0.066	0.05
% of Non-White Students in ATEP	1	-0.168**	0.185**	-0.425**	0.428**	-0.106*	0.018
% of White Faculty in ATEP	-0.168**	1	-0.021**	0.499**	-0.492**	-0.122*	-0.035
% of Non-White Faculty in ATEP	0.185**	-0.921**	1	-0.533**	0.547**	-0.154**	0.046

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A Unable to calculate

	% of Non-White Students in ATEP	% of White Faculty in ATEP	% of Non-White Faculty in ATEP	% of White ACI/CI in ATEP	% of Non-White ACI/CI in ATEP	Program Director Perception of Emphasis	Methods of Implementation
% of White ACI/CI in ATEP	-0.425**	0.449**	-0.533**	1	-1.00**	-0.255**	0.116*
% of Non-White ACI/CI in ATEP	0.428**	-0.0492**	0.547**	-1.00**	1	0.250**	-0.157**
Program Director Perception of Emphasis	-0.106*	-0.122*	0.154**	-0.255**	0.250**	1	-0.159**
Methods of Implementation	0.018	-0.035	0.046	0.116*	-0.157**	-0.159**	1
Number of Faculty performing Culturally Based Research	0.188**	-0.462**	0.509**	-0.366**	0.383**	0.273**	-0.71
Program Director Perception of Effectiveness of Cultural Competence Education	-0.106*	0.032	-0.042	-0.078	0.082	0.293**	-0.291**
Student Perception that Program Emphasizes Cultural Competence	-0.021	0.012	0.026	-0.099	0.091	0.233**	-0.136**

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A Unable to calculate

	% of Non-White Students in ATEP	% of White Faculty in ATEP	% of Non-White Faculty in ATEP	% of White ACI/CI in ATEP	% of Non-White ACI/CI in ATEP	Program Director Perception of Emphasis	Methods of Implementation
Student Perception that Program Values Diversity	-0.016	0.047	-0.026	-0.062	0.047	0.201**	-0.065
Student Perception of Working with a Diverse Population	0.106*	-0.136**	0.147**	-0.192**	0.191**	0.087	0.006
Student Perception that ACI/CI Value Cultural Competence	0	-0.051	0.065	-0.136**	0.127*	0.207**	-0.117*
Student has Worked with an ACI/CI of a Different Race/Ethnicity	0.222**	-0.162**	0.207	-0.312**	0.308**	0.134**	-0.024
Public versus Private	0.108*	0.153**	-0.146	0.05	-0.043	-0.210**	0.225**
Historically Black College or University	0.076	0.419**	-0.453**	0.254**	-0.255**	-0.199**	0.034
Tribal College	A	A	A	A	A	A	A
Hispanic Serving Institution	A	A	A	A	A	A	A
2005 Carnegie Classification	-0.052	0.071	-0.114*	0.206**	-0.191**	-0.032	-0.134**
Institution % Black Enrollment	0.016	-0.0357**	0.399**	-0.283**	0.283**	0.218**	-.0169**
Institution % American Indian/Alaska Native Enrollment	0.025	-0.333**	0.353**	-0.018	0.019	+-00.264*	0.164**

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	% of Non-White Students in ATEP	% of White Faculty in ATEP	% of Non-White Faculty in ATEP	% of White ACI/CI in ATEP	% of Non-White ACI/CI in ATEP	Program Director Perception of Emphasis	Methods of Implementation
Institution % Asian Enrollment	0.416**	-0.055	0.066	-0.357**	0.361	-0.037	-0.012
Institution % Hispanic Enrollment	0.413**	-0.232**	0.229**	-0.519**	0.517**	-0.360**	-0.072
Institution % Non-White Enrollment	0.325**	-0.452**	0.489**	-0.522**	0.533**	-0.007	-0.103*
Student Perception that Institution Emphasizes Diversity	0.092	-0.16	0.042	-0.133*	0.134**	0.1714**	0.018
Student Perception that Institution Values Diversity	0.027	0.028	0.044	-0.124*	-0.121*	0.087	-0.074

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Number of Faculty performing Culturally Based Research	Program Director Perception of Effectiveness of Cultural Competence Education	Student Perception that Program Emphasizes Cultural Competence	Student Perception that Program Values Diversity	Student Perception of Working with a Diverse Population	Student Perception that ACI/CI Value Cultural Competence	Student has Worked with an ACI/CI of a Different Race/Ethnicity
Raw Cultural Competence Score	0.09	0.169**	0.267	0.272**	0.215**	0.180**	0.145**
Race/Ethnicity	0.166**	0.052	0.051	0.041	0.051	-0.004	0.258**
Confidence in Providing Culturally Competent Care	-0.022	0.068	0.062	0.147**	0.226**	0.101*	0.056
Attended Predominately White High School	-0.045	0.078	-0.125*	-0.111**	-0.081	-0.082	-0.204**
Friends are of the Same Race/Ethnicity	-0.1*	-0.028	-0.177*	-0.05	-0.074	-0.08	-0.212**
Grew up in a Predominately White Neighborhood	-0.111*	0.034	-0.145**	-0.094	-0.022	-0.086	-0.255**
% of White Students in ATEP	-0.193**	-0.066	-0.097	-0.09	-0.202**	-0.100*	-0.297**
% of Non-White Students in ATEP	0.188**	-0.106*	-0.021	-0.016	0.106*	0	0.222**
% of White Faculty in ATEP	-0.462**	0.032	0.012	0.047	-0.136**	-0.051	-0.162**
% of Non-White Faculty in ATEP	0.509**	-0.042	0.026	-0.026	0.147**	0.065	0.207**

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Number of Faculty performing Culturally Based Research	Program Director Perception of Effectiveness of Cultural Competence Education	Student Perception that Program Emphasizes Cultural Competence	Student Perception that Program Values Diversity	Student Perception of Working with a Diverse Population	Student Perception that ACI/CI Value Cultural Competence	Student has Worked with an ACI/CI of a Different Race/Ethnicity
% of White ACI/CI in ATEP	-0.366**	-0.078	-0.099*	-0.062	-0.192**	-0.136**	-0.312**
% of Non-White ACI/CI in ATEP	0.386**	0.082	0.091	0.047	0.191**	0.127*	0.308*
Program Director Perception of Emphasis	0.273**	0.293**	0.233**	0.201**	0.087	0.207**	0.134**
Methods of Implementation	-0.71	-0.291**	-0.136	-0.065	0.006	-0.117*	-0.024
Number of Faculty performing Culturally Based Research	1	0.128*	0.009	-0.006	0.130**	0.042	0.095
Program Director Perception of Effectiveness of Cultural Competence Education	0.128*	1	0.108*	0.179**	-0.081	0.130**	-0.081
Student Perception that Program Emphasizes Cultural Competence	0.009	0.108*	1	0.598**	0.207	0.49	0.18

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A Unable to calculate

	Number of Faculty performing Culturally Based Research	Program Director Perception of Effectiveness of Cultural Competence Education	Student Perception that Program Emphasizes Cultural Competence	Student Perception that Program Values Diversity	Student Perception of Working with a Diverse Population	Student Perception that ACI/CI Value Cultural Competence	Student has Worked with an ACI/CI of a Different Race/Ethnicity
Student Perception that Program Values Diversity	-0.006	0.179**	0.598**	1	0.308**	0.432**	0.150**
Student Perception of Working with a Diverse Population	0.130**	-0.064	0.207**	0.308**	1	0.276**	0.161**
Student Perception that ACI/CI Value Cultural Competence	0.042	0.130**	0.490**	0.432	0.276**	1	0.136**
Student has Worked with an ACI/CI of a Different Race/Ethnicity	0.095	-0.081	0.180**	0.150**	0.161**	0.136**	1
Public versus Private	-0.169**	-0.004	-0.062	-0.038	-0.142**	0.023	-0.074
Historically Black College or University	0.048	-0.179**	-0.149**	-0.115*	-0.077	-0.161**	-0.082
Tribal College	A	A	A	A	A	A	A
Hispanic Serving Institution	A	A	A	A	A	A	A
2005 Carnegie Classification	-0.204**	-0.034	-0.029	-0.043	-0.144**	0.035	-0.173**
Institution % Black Enrollment	-0.106*	0.061	0.173**	0.135**	0.134**	0.209**	0.130*
Institution % American Indian/Alaska Native Enrollment	0.218**	-0.314**	-0.067	-0.116*	0.033	-0.148**	-0.043

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A Unable to calculate

	Number of Faculty performing Culturally Based Research	Program Director Perception of Effectiveness of Cultural Competence Education	Student Perception that Program Emphasizes Cultural Competence	Student Perception that Program Values Diversity	Student Perception of Working with a Diverse Population	Student Perception that ACI/CI Value Cultural Competence	Student has Worked with an ACI/CI of a Different Race/Ethnicity
Institution % Asian Enrollment	0.059	0.086	0.081	0.1	0.117*	0.093	0.185**
Institution % Hispanic Enrollment	0.116*	-0.099	-0.064	-0.069	0.133**	0.021	0.169**
Institution % Non-White Enrollment	0.029	-0.029	0.118*	0.084	0.203**	0.170**	0.223**
Student Perception that Institution Emphasizes Diversity	0.038	-0.001	0.295**	0.255**	0.228**	0.244**	0.114*
Student Perception that Institution Values Diversity	0.02	0.077	0.202**	0.274**	0.249**	0.157**	0.083

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A Unable to calculate

	Public versus Private	Historically Black College or University	Tribal College	Hispanic Serving Institution	2005 Carnegie Classification	Institution % Black Enrollment	Institution % American Indian/Alaska Native Enrollment
Raw Cultural Competence Score	0.008	-0.129**	A	A	-0.08	0.114	-0.039
Race/Ethnicity	-0.015	-0.152**	A	A	-0.076	.0113*	0.053
Confidence in Providing Culturally Competent Care	-0.076	-0.089	A	A	-0.002	0.112*	-0.105*
Attended Predominately White High School	-0.03	-0.05	A	A	0.108*	0.026	-0.006
Friends are of the Same Race/Ethnicity	-0.017	0.034	A	A	0.038	-0.046	-0.026
Grew up in a Predominately White Neighborhood	-0.089	0.075	A	A	0.034	0.005	0.011
% of White Students in ATEP	-0.004	0.520**	A	A	0.158**	-0.507**	-0.027
% of Non-White Students in ATEP	0.108*	0.076	A	A	-0.052	0.016	0.025
% of White Faculty in ATEP	0.153**	0.419**	A	A	0.071	-0.357**	-0.333**
% of Non-White Faculty in ATEP	-0.146**	-0.453**	A	A	-0.114*	0.399**	0.353**

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Public versus Private	Historically Black College or University	Tribal College	Hispanic Serving Institution	2005 Carnegie Classification	Institution % Black Enrollment	Institution % American Indian/Alaska Native Enrollment
% of White ACI/CI in ATEP	0.05	0.254**	A	A	0.206**	-0.283**	-0.018
% of Non-White ACI/CI in ATEP	-0.043	-0.255**	A	A	-0.191**	0.283**	0.019
Program Director Perception of Emphasis	-0.210**	-0.199**	A	A	-0.032	0.218**	-0.64**
Methods of Implementation	0.255**	0.034	A	A	-0.134**	-0.169**	0.164**
Number of Faculty performing Culturally Based Research	-0.169**	0.048	A	A	-.204**	-0.106*	0.218**
Program Director Perception of Effectiveness of Cultural Competence Education	-0.004	-0.179**	A	A	-0.034	0.061	-0.314**
Student Perception that Program Emphasizes Cultural Competence	-0.062	-0.149**	A	A	-0.029	0.173**	-0.067

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Public versus Private	Historically Black College or University	Tribal College	Hispanic Serving Institution	2005 Carnegie Classification	Institution % Black Enrollment	Institution % American Indian/Alaska Native Enrollment
Student Perception that Program Values Diversity	-0.0038	-0.115*	A	A	-0.043	0.135**	-0.116*
Student Perception of Working with a Diverse Population	-0.142**	-0.077	A	A	-0.144**	0.134**	0.033
Student Perception that ACI/CI Value Cultural Competence	0.023	-0.161**	A	A	0.035	0.209**	-0.148**
Student has Worked with an ACI/CI of a Different Race/Ethnicity	-0.074	-0.082	A	A	-0.173**	0.130*	-0.043
Public versus Private	1	0.071	A	A	0.384**	-0.111*	-0.258
Historically Black College or University	0.071	1	A	A	-0.021	-0.780**	0.035
Tribal College	A	A	A	A	A	A	A
Hispanic Serving Institution	A	A	A	A	A	A	A
2005 Carnegie Classification	0.384**	-0.021	A	A	1	0.146**	-0.220**
Institution % Black Enrollment	-0.111*	-0.780**	A	A	0.146**	1	-0.131*
Institution % American Indian/Alaska Native Enrollment	-0.258**	0.035	A	A	-0.220**	-0.131**	1

***. Correlation Significant at the 0.05 level (2 Tailed)**

****. Correlation Significant at the 0.001 level (2 Tailed)**

A Unable to calculate

	Public versus Private	Historically Black College or University	Tribal College	Hispanic Serving Institution	2005 Carnegie Classification	Institution % Black Enrollment	Institution % American Indian/Alaska Native Enrollment
Institution % Asian Enrollment	0.126*	0.065	A	A	-0.380**	-0.114*	-0.165**
Institution % Hispanic Enrollment	0.159**	0.067	A	A	-0.068	0.120*	-0.032
Institution % Non-White Enrollment	-0.025	-0.535**	A	A	-87	0.744**	0.026
Student Perception that Institution Emphasizes Diversity	0.049	-0.013	A	A	0.024	0.101	-0.056
Student Perception that Institution Values Diversity	0.029	-0.048	A	A	-0.052	0.114*	-0.079

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Institution % Asian Enrollment	Institution % Hispanic Enrollment	Institution % Non-White Enrollment	Student Perception that Institution Emphasizes Diversity	Student Perception that Institution Values Diversity
Raw Cultural Competence Score	0.07	0.019	0.110*	0.165**	0.275**
Race/Ethnicity	0.083	0.108*	0.169*	0.05	0.024
Confidence in Providing Culturally Competent Care	0.057	0.0505	0.105*	0.053	0.137**
Attended Predominately White High School	-0.191**	-0.142**	-0.106*	-0.016	-0.007
Friends are of the Same Race/Ethnicity	-0.154**	-0.202**	-0.179**	-0.046	0.065
Grew up in a Predominately White Neighborhood	-0.117*	-0.066	-0.061	-0.063	0.057
% of White Students in ATEP	-0.413**	-0.423**	-0.702**	-0.092	-0.097
% of Non-White Students in ATEP	0.416**	0.413**	0.325**	0.092	0.027
% of White Faculty in ATEP	-0.055	-0.232	-0.452**	-0.016	-0.028
% of Non-White Faculty in ATEP	0.066	0.229**	0.489**	0.042	0.044

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Institution % Asian Enrollment	Institution % Hispanic Enrollment	Institution % Non-White Enrollment	Student Perception that Institution Emphasizes Diversity	Student Perception that Institution Values Diversity
% of White ACI/CI in ATEP	-0.357**	-0.519**	-0.552**	-0.133**	-0.124**
% of Non-White ACI/CI in ATEP	0.361**	0.517**	0.553**	0.134**	0.121*
Program Director Perception of Emphasis	-0.037	-0.260**	-0.007	0.171**	0.087
Methods of Implementation	-0.012	-0.072	-0.130*	0.018	-0.074
Number of Faculty performing Culturally Based Research	0.059	0.116*	0.029	0.038	0.02
Program Director Perception of Effectiveness of Cultural Competence Education	0.086	-0.099	-0.029	-0.001	0.077
Student Perception that Program Emphasizes Cultural Competence	0.081	-0.064	0.118*	0.295**	0.202**

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Institution % Asian Enrollment	Institution % Hispanic Enrollment	Institution % Non-White Enrollment	Student Perception that Institution Emphasizes Diversity	Student Perception that Institution Values Diversity
Student Perception that Program Values Diversity	0.1	-0.069	0.084	0.255**	0.274**
Student Perception of Working with a Diverse Population	0.117*	0.133**	0.203**	0.228**	0.249**
Student Perception that ACI/CI Value Cultural Competence	0.093	0.021	0.170**	0.244**	0.157**
0.185**	0.169**		0.223**	0.114**	0.083
Public versus Private	0.126*	0.159**	-0.025	0.049	0.029
Historically Black College or University	0.065	0.067	-0.535**	-0.013	-0.048
Tribal College	A	A	A	A	A
Hispanic Serving Institution	A	A	A	A	A
2005 Carnegie Classification	-0.380**	-0.068	-0.087	0.024	-0.052
Institution % Black Enrollment	-0.114*	0.120*	0.744**	0.101	0.114*
Institution % American Indian/Alaska Native Enrollment	-0.165**	-0.032	0.026	-0.056	-0.079

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate

	Institution % Asian Enrollment	Institution % Hispanic Enrollment	Institution % Non-White Enrollment	Student Perception that Institution Emphasizes Diversity	Student Perception that Institution Values Diversity
Institution % Asian Enrollment	1	0.523**	0.436**	0.159**	0.116*
Institution % Hispanic Enrollment	0.523**	1	0.680**	0.099	0.106*
Institution % Non-White Enrollment	0.436**	0.680**	1	0.160**	0.155**
Student Perception that Institution Emphasizes Diversity	0.159**	0.099	0.160**	1	0.456**
Student Perception that Institution Values Diversity	0.116*	0.106*	0.155**	0.456**	1

***. Correlation Significant at the 0.05 level (2 Tailed)**
****. Correlation Significant at the 0.001 level (2 Tailed)**
A Unable to calculate